VOICE OF THE DIABETIC

A SUPPORT AND INFORMATION NETWORK

The Diabetics Division of The National Federation of the Blind

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An Alternative Technique for Drawing Up Cyclosporine

by Ed Bryant

Ed Bryant, Editor, *Voice of the Diabetic,* outlines an alternative technique, which enables blind transplant recipients to independently draw up cyclosporine. "Limitations are usually self-imposed, and there is no reason for blind citizens to be dependent."

(**Editor's Note:** This article was originally published in ***Voice of the Diabetic*** about two years ago. This technique for measuring cyclosporine has been helpful to blind consumers, as well as health professionals. The editor grants permission for anyone to reprint this article in its entirety. This article was updated in September, 1989.)

Sandimmune (cyclosporine) is an immunosuppressant drug commonly used in conjunction with organ transplant operations to prevent the immune system from rejecting the transplanted organ. Historically, throughout the medical profession, there has been a pervasive conviction that blind transplant recipients cannot safely or accurately draw up their own cyclosporine unaided by a sighted person.

The following article postulates a procedure which will allow virtually any blind person to draw up his or her own cyclosporine while still fulfilling the all-important dual criteria of accuracy and safety.

This procedure is not experimental. I am a blind kidney transplant patient and I have used it personally for more than six years and have yet to encounter any problems. My hope is that through this procedure, many blind people may be allowed to become less dependent on others in this significant aspect of their lives.

Additionally, I would like to encourage the various health professionals who deal with blind patients to inform them of this technique. Such a self-help policy for blind people is in both the best interest of society, since it allows us, the blind, more of a sense of independence and dignity, and of the medical profession since it would free up medical resources such as visiting nurses for use in more pressing medical problems.

How to Make a Cyclosporine Measuring Device (Stopper)

Materials required:

Two syringes for measuring cyclosporine, one single-edge razor blade, and one ruler.

Procedure:

1. Remove the plunger from one of the syringes. Set this plunger aside, you will not need it.
2. Raise the plunger on the other syringe until it reads the proper

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Voice of the Diabetic is a national publication of the Diabetics Division of the National Federation of the Blind. It is read by those interested in all aspects of blindness and diabetes. We show diabetics that they have options regardless of the ramifications they may have had. We have a positive philosophy and know that positive attitudes are contagious!

News items, address changes and other correspondence should be sent to the editor.

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An Alternative Technique for Drawing Up Cyclosporine

(Continued from page 1)

dosage required for the patients (i.e., I ml or 100 mg, 200 mg, etc.).

3. Measure the distance on this plunger between the finger tabs on the tube and the finger tabs on the plunger for the proper dosage.
4. Take the empty round sleeve on the other syringe and cut off a section of the tube which is a little longer than what you measured. (If you have only a 1-ml (100-mg) dosage, you cut two or three tubes from this sleeve.)
5. Hold one of the tube sections firmly and split the tube open length-wise by cutting from one rim to the other. This is like splitting a soda straw down one edge.
6. Again, holding the same tube section firmly, from one of the split edges shave off an 1/8" segment. The segment removed will look like a small curved rectangle about 1/8"-3/16" wide and the same length as the tube.
7. The stop sleeve now looks like the letter "C" and the open side will slip over the plunger on the syringe when the plunger is lifted.
8. Slip the stop sleeve onto the plunger neck and press the plunger down firmly. Because we cut the stop sleeve a little too long, we now need to trim the ends to make them neat and the proper length for the correct dosage. Note: The hard plastic may be sanded or filed for this purpose.
9. Slip the stop sleeve back onto the plunger to insure that it is the proper length.
10. This stop sleeve is your measuring device. You should cut a second one in case the first is misplaced.

How to Measure Cyclosporine and Use Stopper

1. The bottle of cyclosporine should be sitting on a flat surface such as a table.
2. Insert the cyclosporine syringe into the bottle. Make sure that the plunger is pushed all the way in.
3. With one hand, hold the bottle containing the cyclosporine and the syringe, and with the other hand slowly pull the plunger out until you have drawn a bit more cyclosporine than the dosage calls for.
4. Insert the stop sleeve onto the plunger neck.
5. Push the stop sleeve in until the thumb pad is firmly against the stop sleeve. Note: Always continue to hold the bottle with one hand as it might otherwise tip over.
6. Remove the syringe from the cyclosporine bottle and remove the stop sleeve from the plunger. You now have the correct cyclosporine dosage in your syringe and are ready to mix it with whatever liquid you use.
7. After use, dry the outside of the pipette with a clean towel and replace it in the protective cover. To avoid clouding, do not rinse the syringe with water or other cleaning agents.

To determine how long a bottle of cyclosporine will last, simply divide the cyclosporine dosage (milliliters or milligrams) that you use each day into the total dosage contained in the bottle (i.e., if you use 2 ml each day, then the bottle would last 25 days or, if you use the equivalent amont of 200 mg each day, the bottle would last 25 days). There are 50 ml or 5,000 mg in each bottle. When the bottle gets close to being out of cyclosporine it is sometimes difficult to accurately draw the correct amount. To insure that the correct amount is drawn and as a safeguard, I assume that each bottle contains only 45 ml (4,500 mg) rather then the actual 50 ml (5,000 mg).

After using the 45 ml (or 4,500 mg) I open a new bottle and after using the same amount from the new bottle, I combine the contents of both the old and new bottles with the help of a small funnel.

It is easy to tell by the weight of the bottle when the amount of cyclosporine remaining is getting low. This same information can also be obtained by gently shaking the contents (be sure to replace the cap securely first!). Note: If you are ever uncertain about the dosage that you have drawn, do not take it!

Since the daily cyclosporine dosage usually diminshes with time after the transplant, you will need to modify the length of the stopper accordingly each time the dosage decreases. This can be done most easily by utilizing a file and/or sandpaper.

You will find that this device is extremely durable and has an almost indefinite lifespan. I have been using the same piece of tubing for more than six years.

A note to medical professionals: We certainly hope that you will pass along this helpful technique to any of your blind patients to whose circumstances it would be applicable. They will appreciate you for it.

A note to patients and consumers: We hope that you will pass along your knowledge of this procedure to physicians, nurses, and transplant units to enable them to serve you and others more effectively in the future.

All transplant units should show this method of measuring cyclosporine to blind people. Unfortunately, many people are not aware that blind people are quite adept at handling such a simple task.

The National Federation of the Blind exists to serve all blind people, to eliminate the myth that blindness is synonymous with inability, to accentuate the positive assets and abilities of blind people and to encourage these people to use these assets and abilities to their fullest. I'm on the board of the Diabetics Division of the National Federation of the Blind and serve as editor for our magazine, *Voice of the Diabetic,* where my article and procedure were first published. For additional information, contact: Ed Bryant, 811 Cherry St., Suite 306, Columbia, MO 65201; Phone: (314) 875-8911.

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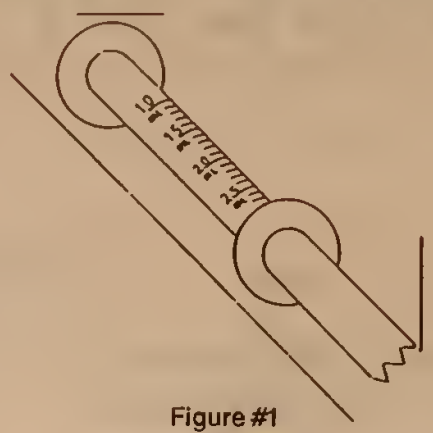

Figure #1

The syringe will hold 4 ml (or 400 mg). Markings are shown for milliliters 1, 2, 3 & 4. Each ml is further sub-divided into 10 equal parts. Thus each subdivision indicates .1 ml (or 10 mg).

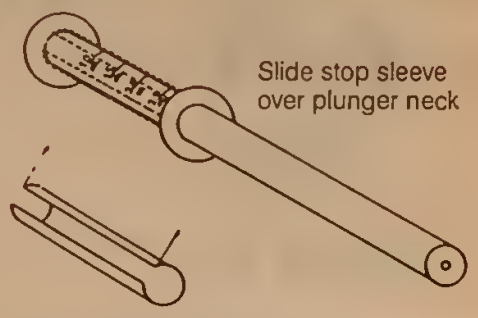

Figure #2

The completed measuring device (stop sleeve).

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(Editor's Note: In correspondence received by the editor, Lois Bartell, RN, BSN, said in part, "I plan to put the entire procedure as an integral part of the Handbook for Transplant Patients which is received by every transplant patient at the University." However, she prefers the use of scissors to the single-edge razor blade and states, "It works very well." The following is an endorsement by Lois Bartell.)

To all transplant patients:

At the University of Minnesota, we have been using the plastic sleeve measuring device (stop-sleeve) for the past year. Our former measuring device consisted of taping together a section of staples of the appropriate length. We find that the plastic sleeve is more durable and can be washed periodically. We appreciate the development of this concept as it is another way to promote independence among our vision impaired transplant population. We have always provided a means for labeling bottles and medicine cards to provide accurate medication preparation, but when it came to liquids our only device was a sleeve made from staples. Thanks to Ed Bryant and his creativity we now can make a measuring sleeve easier and more durable. I encourage its use by all patients.

— *Lois Bartell, RN, BSN,*
Organ Transplant Clinical Nurse Specialist, University of Minnesota Hospital & Clinic

Is Anything Simple With Us?

by Royanne R. Hollins

Royanne R. Hollins explains why the life of a diabetic is not always simple.

Here we are, diabetic. Now what? Is anything simple with us?

As a diabetic, when illness strikes, it can become quite acute in a very short period of time. I am not speaking only of the major illnesses such as heart disease, kidney disease and various infections, but also of the "common cold" and the "flu." Once you have come down with an illness, you have decisions to make such as, "Now what? Is anything simple with us?"

As all of you who are diabetic are aware, a doctor's care during time of illness is extremely important. Adjustments must be made in insulin dosage as well as your meal plan. Some of us get stubborn and do not want anyone helping with our care or generally "messing" around with us. Why can't people just leave me alone and let the illness run its natural course? Is anything simple with us?

We often become overwhelmed with the stresses and requirements of self-care. Sometimes we are inundated with so much information we do not know how to approach this

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particular problem. The problem may consist of a "simple" cut from your culinary antics in the kitchen. This "simple" cut may turn dark, ugly and smelly in a day or two. Ooops! You've got problems! Is anything simple with us?

What about the "common cold" that lingers for days, then weeks and possibly longer. Oh no, bronchitis they say or was it walking pneumonia? Wow! It has hit you again. It is getting more and more obvious that there is nothing simple regarding the care and treatment of our diabetes and sick-day management.

Remember the time you had the "flu." You stayed home in bed, drank lots of fluids and tried to avoid calling the doctor. However, after two days of the typical flu nasties — diarrhea and vomiting — and not being able to eat, you break down and call the doctor. He has you come into his office to take a look at you and *boom*, you're admitted to the hospital with acute ketoacidosis and severe dehydration. You thought it was only the flu. How many people (non-diabetic) do you know who react to illness in such a way? Is anything simple with us?

A "quick" in-and-out hospital stay for a "simple" procedure may turn into a 2, 3 or 4 day stint. Take for instance a recent procedure I underwent . . . left shoulder manipulation. This became necessary after my shoulder froze up due to adhesive capsulitis. It was a very painful condition which greatly reduced my shoulder range of motion. The procedure consisted of putting me under general anesthesia and a manual manipulation was performed by the orthopedic surgeon. He "simply" pushed, pulled, stretched, ripped and moved the shoulder just short of breaking the bone to give it near normal range of motion, a 15-minute procedure. Now this is where the diabetes comes in . . . the healing process.

Post-surgery, I was hospitalized for three days. Close monitoring of my blood sugars was essential. The pain was intense and required control through very strong pain medications. Luckily, my recovery went well and I was released on the third day. However, things could easily have turned out differently.

As part of my treatment, I even request the same anesthesiologist all the time. That way, I am in the hands of someone I trust and someone who knows my medical history inside and out. Now, this procedure performed on a non-diabetic is often performed as an outpatient, thus sending the patient home immediately. This was not the case where I was concerned. Is anything simple with us?

Because nothing is ever really simple with us as diabetics, I truly dread being ill. I avoid people with obvious colds at all costs. When my children get the sniffles, I become a fanatic at washing my hands to prevent infection to myself. When people are ill at work, I close the door to my office and try not to let them in. Let's face it, nothing is simple with us, whether it be eye problems, kidney problems, colds, fever or the flu. We must do our best to protect ourselves from these "simple" *things. Better yet, we* must call on our doctor often and stay in close communication with him at all times.

I'm sure many of you have similar stories. Is anything simple with us? How about a resounding "No!"

Mary Poppins Was Absolutely Right!

by Susan Manchester

Susan Manchester, Second Vice President, Diabetics Division, National Federation of the Blind, writes about being prepared for an insulin reaction.

Strange heading for an article in a publication about diabetes? Perhaps so, but consider a moment; remember the song Julie Andrews (as Mary Poppins) sang, "A spoonful of sugar helps the medicine go down"? Well, when one is dealing with the difficult task of good management of diabetes, and particularly if one is new to this disease, or having problems that cause variations in blood sugar for no apparent reason, it is well to remember that a spoonful of sugar helps the blood sugar go UP, and as rapidly as possible.

I cannot tell you how many times I have been present when someone has the onset of a hypoglycemic reaction, and a companion is sent galloping off to find orange juice or candy. Orange juice is not available willy-nilly. It will not be readily available in church, at a bus stop, or in the library, to name a few places. Nor will candy be available there either, for that matter. The use of chocolate is also bad news, as the amount of fat in chocolate makes it much slower to absorb through the stomach walls, therefore sustaining the duration of the hypoglycemia.

I also want to emphasize that these concerns are not addressed solely to our Type I diabetic friends; Type II diabetics, who use pills, not

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Airline Battle Moves Toward Showdown

by Kenneth Jernigan

Kenneth Jernigan, Executive Director, National Federation of the Blind, reports on S. 341 (The Air Travel Rights for Blind Individuals Act).

(Note: This article appeared in the July 1989 issue of ***The Braille Monitor,*** a national magazine published by the NFB.)

For more than a dozen years (sometimes it almost seems like forever) the blind of this country have been trying to get equal treatment with others when flying on commercial airplanes. As *Monitor* readers know, the battle has been lengthy and furious. We have been accused of being militant, radical, stubborn, stupid, nit-picky, and inconsiderate — and these are only the kinder and more printable things that have been said. Yet, we have stood by our principles and refused to knuckle under.

The controversy is now moving into a decisive phase. On March 13 of this year the Federal Aviation Administration printed proposed rules which would bar the blind from sitting in exit rows on planes, and on March 14 hearings were held before the Subcommittee on Aviation of the Senate Committee on Commerce, Science, and Transportation to consider S. 341 (The Air Travel Rights for Blind Individuals Act), introduced by Senator Ernest F. Hollings of South Carolina. Senator Hollings is Chairman of the full Committee. Representatives of the National Federation of the Blind testified in support of S. 341, and the federal Department of Transportation and the airline industry testified against it. The hearing attracted a great deal of media coverage, including an appearance by President Maurer on NBC's *Today Show.*

On May 16, 1989, the Senate Committee on Commerce, Science, and Transportation approved S. 341 as introduced and ordered the bill to be reported to the full Senate. The bill was approved by the Committee on a voice vote of the senators present. Including Senator Hollings, there were seven Republicans and five Democrats in the room. Only two senators (Slade Gorton, Republican of Washington State, and Conrad Burns, Republican of Montana) appeared to vote no. Both Senator Gorton and Senator Burns also made brief speeches to explain why they were going to vote against S. 341. Their reasons amounted to an unquestioning acceptance of the safety arguments made by FAA and airline industry officials.

Senator James Exon, Democrat of Nebraska, spoke strongly in favor of S. 341, as did Senator Daniel Inouye, Democrat of Hawaii. Senator Exon said that he had not received satisfactory answers from the FAA in response to his questions about their safety claims. Privately it is said that the Air Transport Association contacted several senators in an attempt to find one who would offer an amendment to convert the bill's purpose into a call for an FAA study. Not one of the senators offered such an amendment. At the time of this writing (late May) the bill is awaiting action by the entire Senate. Including Senator Hollings, S. 341 currently has thirty-two cosponsors, and the chances seem good that it will pass the Senate. This is so despite the strong lobbying of Department of Transportation officials and the money and power of the airline industry.

In the House of Representatives the Air Travel Rights for Blind Individuals Act has been introduced as H.R. 563. As was the case in the last session of Congress, the principal sponsor is Congressman James Traficant of Ohio. One hundred fifty-nine other members of the House have so far joined with him as cosponsors. The chairman of the House subcommittee to which H.R. 563 has been reported is not a cosponsor and has not yet scheduled hearings, but as the number of supporters grows, it would seem likely that he (Congressman James Oberstar, MN) will.

In response to the Committee's approval of S. 341 the *New York Times* carried an unfavorable editorial on Saturday, May 20. An appropriate answer is being prepared, which we will try to get the *Times* to carry on its Op Ed page. The battle is now fully joined, and it remains to be seen whether the Congress, the media, and the general public have advanced far enough in their thinking to understand the issues and be willing to accord first-class citizenship to the blind. Regardless of the outcome, we continue to make steady progress. Even two years ago we were not able to move the Air Travel Rights for Blind Individuals Act through a committee and onto the floor of either House. This year prospects are bright, and we may be able to see the bill enacted into law. In any case we will continue our march to freedom, and we will not be turned back.

Achievement

Achievement is made of high hopes, of hard work, of dreams and drudgery. The blind of America are willing to work and work hard, but we also dare to dream. This is the story of the National Federation of the Blind. This is why we, as blind people, have organized and why we seek your help and understanding. When you see our literature in the mail or meet us on the streets, think of us as people, as fellow citizens just like you, with all the range of talents and weaknesses, wants and wits that you possess. The National Federation of the Blind is the blind speaking for themselves with a positive voice.

Airlines, the Safety Hoax, and the FAA: A Report from the International Conference on Aircraft Cabin Safety

James Gashel, Director of Governmental Affairs, National Federation of the Blind, points out the airlines' disregard for aircraft cabin safety.

(Note: This article appeared in the July 1989 issue of ***The Braille Monitor***, a national magazine published by the NFB.)

In the fall of 1986 Congress passed and the President signed into law the Air Carrier Access Act, a piece of legislation intended to protect disabled people from discrimination at the hands of the nation's airlines. Members of the National Federation of the Blind were cautiously jubilant over this victory. Leaders in both the House and Senate had assured us and one another that this law was designed to protect blind passengers from harassment over seat location, stowage of canes, disposition of dog guides, etc. The Department of Transportation (DOT) was charged with devising the implementation of this law, and they had only ninety days in which to do it. We were skeptical, and our skepticism proved to be well-founded.

At the mid-point of 1989, the DOT implementation is still no more than a proposed document. But (and it is a very large but *indeed) the Federal Aviation Administration (FAA) has now weighed in with its own contribution to the discussion. Until the summer of 1988 it had maintained that where blind passengers sat in an aircraft cabin was not a safety issue. Its data, gathered in 1973 and apparently not revised since, had determined this position. But on March 13, 1989, the FAA published in the* Federal Register *a fifty-nine page document of rule-making. For months FAA representatives had been warning interested parties that they would soon take an official stand, and it was clear what they would say. Suddenly the FAA had discovered that safety was at issue, and the blind (along with members of other identifiable groups) were unsafe at any speed and in any circumstance.*

The arguments the FAA cobbled together and the National Federation of the Blind's responses to them are discussed elsewhere in this issue. In November of 1988, James Gashel, Director of Governmental Affairs of the National Federation of the Blind, attended an international conference on air cabin safety. He assumed that

this was the place where one could hear straight talk about air safety and observe the industry and the regulators' true commitment to safety. His assumption proved to be dismayingly correct. Here is Mr. Gashel's report:

The Federal Aviation Administration is the branch of the United States Department of Transportation which operates the nationwide air traffic control system. It is also supposed to develop and publish standards for air carriers to follow in providing safe service to the public. For example, FAA regulations prescribe the content of the preflight safety briefings the flight attendants must give passengers prior to takeoff. The Federal Aviation Act of 1958, as amended, spells out the FAA's responsibilities.

Air carrier representatives have always tried to hoodwink blind people into believing that seating restrictions have always been required by the FAA. This has happened whenever there have been confrontations over exit-row seat assignments. Blind people seated near the exits have been routinely told that there was an FAA regulation which required them to move. They were also told that failure to do so would be a violation of federal law. Until June of 1989, when the FAA's proposed rule took effect, these statements were not true. They were only made to intimidate blind people into moving. The facts are that each air carrier has had its own procedures, which may (or may not) have included seating restrictions. These rules (which may be in a carrier's procedures) were not a matter of federal law. They were not enforced by the FAA but merely filed with it.

The FAA did not require air carriers to establish procedures that restricted blind passengers from being seated near emergency exits. Some (a majority) of carriers placed such restrictions in their procedures. Others did not. Until very recently, the FAA did not have a regulation which forced it to impose restrictions. The carriers (especially the major ones which have always restricted seating for the blind) pressured the FAA to impose a uniform federal ban on seating blind people near emergency exits. After all, a federal rule would remove responsibility from the carriers, who could then legitimately point fingers at the FAA. They could tell the blind that "the FAA made us do it," and it would be the truth.

In light of the controversy over this matter, which has been heating up over the past several years, it seemed like a good idea to attend an international flight safety conference, held in early November, 1988, near Washington, D.C. The conference was sponsored by the FAA and organized by the Flight Safety Foundation—what better place to learn about safety issues in air travel? Participants included all major commercial airlines, aircraft manufacturers, pilot and flight attendant unions, staff from the National Transportation Safety Board, FAA representatives, and assorted consultants interested in aircraft cabin safety. Twenty-one countries, including the United States, were represented. Among the 243 participants were personnel officially representing thirty-eight airlines.

Quite apart from the issue of seating blind people near emergency exits, there are several questions which come to mind when one attends an aircraft cabin safety conference. The general question is, "How safe are airplanes anyway?" If blind people are to be denied seats near emergency exits, does this restriction constitute a higher standard of safety than is normally applied? Is any effort being made to correct known safety hazards? Which ones (if any) are being tolerated and why? Are airlines willing to take steps which would make air travel safer for all passengers? If not, why? These are only a few of the issues that crossed my mind as the cabin safety conference opened.

One question was quickly answered in the first few minutes of the conference. Thomas E. McSweeny, the FAA's Deputy Director, summarized his agency's activities undertaken in response to recommendations of a similar conference held four years ago. He discussed the FAA's development of regulations on handicapped seating but admitted that these rules were not being promulgated in response to a conference recommendation, for the very good reason that none had been made. The cabin safety experts had apparently seen no reason to do so.

Attending a flight safety conference is not a reassuring experience. Although I had suspected that this might be the case, the reality was even more frightening than I had anticipated. I already knew about some of the hazards, such as babies being seated on laps. Some youngsters and other passengers have been seriously injured for lack of child restraints during steep dives, turbulence, or cabin-decompression. Requiring child restraints, such as those used in automobiles, would be feasible and certainly safer for all passengers, especially children. An FAA spokeswoman told me, however, that child restraints are not required because of "economics." If they were, parents would undoubtedly be charged for a seat, whereas now children who sit on laps fly free. Child restraints would also mean additional costs to the airlines, she said.

I was shocked to learn about another danger involving the transport of hazardous materials on board passenger-carrying aircraft. Federal regulations require the shippers of such cargo to identify these materials and to obey other packaging and shipping specifications. Experts at the conference said, however, that shippers frequently mislabel the materials in ways that mask the hazard. In one example given, chemicals used for making acid-washed jeans were identified by the shipper as laundry equipment. Mislabeling can lead to improper packaging and the failure to stow the materials safely on board the aircraft.

In the example given, the chemicals, which were flammable, were placed in a Class D cargo compartment for a flight to Nashville, Tennessee. When the aircraft was about to land, the passengers and cabin crew began to smell smoke—the hazardous materials had burst into flame. The Class D cargo compartment does not contain fire sensors, and even if it did, there are no extinguishers nearby. The crew, therefore, has no way of knowing the exact location of the fire, or the means to put it out. Such a catastrophe could occur on virtually any aircraft flying today.

The working portion of the conference consisted of several small group sessions. I chose to attend the one on passenger information. We discussed the practice of orally briefing all passengers using the public address system before each flight. I said that including the row numbers of the emergency exits in the oral announcements would be a good idea. Most people are conscious of their own row locations by virtue of the boarding process. Mentioning the row numbers of the exits would be an additional guide for all passengers in locating the escape route nearest their seats. This was the only proposal voted upon in the entire meeting, and astonishingly, it lost, getting only seven votes. Opponents offered various excuses. For example, some aircraft cabins are numbered in reverse order, and sometimes rows (13 for instance) are omitted. After airline personnel claimed that the cabin crews might, in confusion, announce incorrect row numbers for the exits, most of the flight attendant representatives voted in favor of the proposal.

Considering the matter purely from a safety standpoint, it would be hard to argue that announcing the exit row numbers would be more dangerous than the present practice of not doing so. A spokeswoman from the National Transportation Safety Board (who also seemed to favor announcing the locations of exits) mentioned that her agency had thought for some time that flight attendants should point to them. She said that the National Transportation Safety Board has been trying for several years to convince the FAA to establish a regulation requiring flight attendants to point out the exits. The FAA has not made such a regulation. One might ask why?

At the conference, the answer was apparent. Several references were made to the fact that airlines are worried about the image of commercial flying. They do not want to to emphasize possible hazards for fear the public will abandon air travel. This anxiety was apparent over and over again as airline representatives argued against every proposal that

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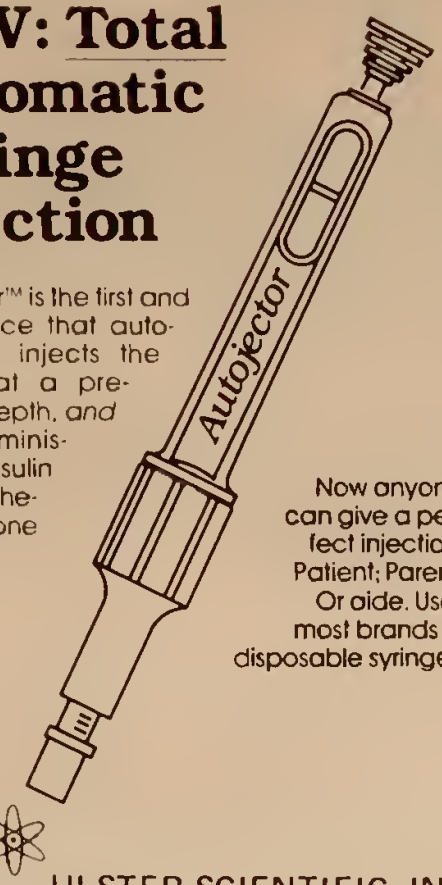

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would give passengers more information about safety.

Someone mentioned that on several occasions passengers have initiated emergency evacuations in response to non-emergency conditions. This has happened most often when the auxiliary power unit "torches." Torching of the power units occurs when excess fuel catches fire, and a small explosion takes place. The experience can be very frightening to an uninformed passenger. It has resulted in more than one unnecessary emergency evacuation, causing injuries and delaying flights.

I proposed that this, and other problems of emergency evacuations, be dealt with by means of a special preflight briefing which should be given to each occupant of a seat near an emergency exit. These passengers are the ones who must understand and obey the flight attendants' commands in time of emergency. Hasty action (as in the case of a torching incident) might cause more injuries than waiting for instructions.

These special briefings were not a popular idea. Airline personnel maintained that their flights are very tightly scheduled, and there isn't sufficient time to give a special briefing to the exit row occupants. So much for safety. A consultant whose company makes briefing cards for the airlines suggested that passengers might want to move if they were informed of their responsibilities. I responded that this was exactly the point. A passenger should know what to do if there were an emergency. If he or she candidly expresses unwillingness to assume or perform the duties (or if the passenger realizes that he or she is unable to do so), a change should be made. It would be unsafe and irresponsible not to brief the passengers and to leave the uninformed, unwilling, or unable passenger seated near the exit door. Nonetheless, this proposal was not even seriously considered.

The group's discussion moved on to briefing cards. There was considerable debate about whether or not the cards are adequate. I proposed that they be designed to give only the safety directions that apply to the aircraft on which they are carried. The FAA regulations require that the cards explain procedures for the type and model of aircraft, but not for the specific plane. Having aircraft-specific briefing cards did not seem like a good idea to anyone else. As matters stand, with the cards only reflecting the type and model of aircraft, a passenger who must open an emergency exit door may have several instructions from which to choose. In a crisis it is quite unrealistic to expect that he or she can make the correct decision quickly. To avoid confusion, it would be better to have aircraft-specific cards, but the airlines do not want them.

The group meeting on passenger information was not very productive, to say the least. Reacting to my proposals, Mr. Ron Welding, representing the Air Transport Association of America, finally said that matters involving the handicapped were being dealt with by a special group of experts working with the Department of Transportation. He apparently did not regard me as one of those experts. Mr. Welding proposed that I take my suggestions to those who knew about the handicapped because these matters were not the subject before the passenger information group at this conference. I responded in part by saying that the proposals I had been making were not matters involving the handicapped at all. They would make air travel safer for everyone. The special briefing for emergency row occupants, for example, had nothing whatsoever to do with the handicapped. I addressed several other comments to Mr. Welding, who was not heard from again.

Here is the bottom line. Airlines are resistant to any new safety suggestions which might emphasize the possible hazards of flying. They also resist new measures which would increase safety. Their resistance is strongest when safer procedures have economic implications, but even those that do not are resisted if they require a change. Ask any pilot or flight attendant if this is true. It is not that the airlines care nothing about safety; of course they do. But airlines also care about other things, such as making money. Many studies show that air travel in this country has become increasingly unsafe due to the growing competition for paying customers. This is what airlines care about most and is the reason why they persist, for example, in selling liquor to exit row passengers who will need to have sound judgment in case of an emergency. It is also why the airlines do not want to give emergency row occupants special briefings, for fear that they will waste valuable time, or that they may convince some passengers to move.

Doubtless many people in the commercial aviation industry think it would be safer not to have blind people seated near emergency exits. They hold to this view without a single piece of proof, and yet knowingly accept risks that have serious safety implications. Why do passenger-carrying aircraft transport hazardous materials? Because shippers want this service, and airlines want the money. The planes carrying passengers are flying anyway, so why not fill the empty space with anything that the customer is willing to pay for? Why not install fire detectors and extinguishers? Because of the expense. It is not that the airlines want to be unsafe; it is just that they want to make money.

This is the lesson one learns by attending an international conference on aircraft cabin safety. It is not a reassuring experience. In fact, it is downright frightening. Here is what the airlines are saying to us: It is perfectly appropriate to discriminate against the blind by restricting their seating (and performing other demeaning acts) as long as safety is the excuse. But when it comes to increased protection against hazardous materials, special briefings for passengers seated near exits, aircraft-specific briefing cards, oral announcements of the location of emergency exits, or even pointing to the exits, the airlines want none of it. After uncovering that kind of logic, can anyone doubt that we face discrimination by the airlines of a most cruel and vicious type? Only through the efforts of the National Federation of the Blind is this unequal treatment being challenged. They tell us that there is no discrimination, that the blind are not a minority. That is what they tell us, but in flying on the airlines we have learned to our cost that it is not the truth.

Senator Harkin Testifies in Favor of the Air Travel Rights for Blind Individuals Act

Peggy Pinder, Second Vice President, National Federation of the Blind, is a blind citizen who has experienced discrimination by the airlines.

(Note: This article appeared in the July 1989 issue of *The Braille Monitor*, a national magazine published by the NFB.)

As reported elsewhere in this issue, a hearing on the Air Travel Rights for Blind Individuals Act was held March 14, 1989, before the Subcommittee on Aviation of the Senate Committee on Commerce, Science and Transportation. One of those testifying in favor of the bill was Senator Tom Harkin of Iowa. This is particularly important since Senator Harkin is the chairman of the Subcommittee on the Handicapped and recognized throughout the Senate for his interest in rights of the disabled. Here is what Senator Harkin had to say:

Testimony of Senator Tom Harkin
March 14, 1989

Mr. Chairman, thank you for providing me the opportunity to share my views on the Air Travel Rights of Blind Individuals Act. Over the past four years dozens of blind persons have been arrested at the instigation of airlines with no basis. These arrests do not result in convictions; in fact, most blind persons are released without charge or are exonerated by the prosecutor without trial. The power of the police is used to enforce the airline's will, and the subject is then dropped. Fifteen attorneys general of the several states have issued letters explaining to law enforcement officers and airport authorities in their states that no basis for such arrests exists. I am proud to say that Iowa's progressive Attorney General Tom Miller was among the first to move to protect his state's citizens. I'd like to include a copy of a letter written by Attorney General Miller which summarizes the federal and state laws as they pertain to the rights of blind air travelers.

But the arrests, wrong as they are, do not encompass the entire problem for blind air travelers. The arrests, while predicated on various factual situations, rest on the underlying assumption that blind travelers are unsafe and must be treated differently from the way the rest of the passenger load is treated. This differential treatment spills over to many areas of blind passenger experience not culminating in outright arrest.

One of my constituents, Peggy Pinder, was arrested at National Airport last Easter time for occupying her seat on an aircraft nowhere near an exit row. She was arrested for declining to move to a seat near an exit, an instruction given because she is blind. Two weeks later, another blind person was arrested for occupying his seat near an exit on an aircraft and declining to move to a seat away from an exit, an instruction given because he is blind. The disparate treatment of these two blind people points up that there is no consistency within the industry and no rationale for industry treatment of blind passengers.

The basic problem is that airlines, like other persons who discriminate against the blind, begin by assuming that blind people as a class are cate-

gorically different from sighted people as a class. Using this assumption, different airlines and different crews treat blind people differently, patronizing them and pushing them around because they insist on treating the blind passengers unlike sighted passengers. Industry spokesmen in justifying this difference usually resort to an analogy between the blind and young children, which is particularly offensive to me and to the blind adult Americans who pay taxes and work and vote.

In 1981 a federal regulation was adopted permitting and governing the carriage of white canes by blind passengers at their seats. However, last month five of my constituents who were returning to Des Moines after a visit to our nation's capital were involved in a dispute over where each blind person could store his or her cane. My constituents told me that the airline personnel insisted that the canes were carry-on baggage which had to be confiscated from the blind passengers. I have asked the Federal Aviation Administration to look into this matter.

Today a blind air traveler approaches an airport with only one certainty: He or she does not know what will happen. The trip may go smoothly; it may be filled with indignities; it may end in arrest. This occurs because the federal government has refused to order airlines to treat the blind like other passengers, even though the blind have pleaded for this simple requirement for years. Left to themselves, the airlines have developed a series of inconsistent, contradictory, and crew-by-crew rules for the blind. They have no basis in fact or law.

There is simply no evidence that blind passengers pose any safety risk different from sighted passengers. There is a vast body of evidence – in the arrests and harassment of my constituents and others –that the airlines believe blind passengers are different and insist on treating them as such.

Three years ago, when it became clear that the FAA did not wish to settle the problem, Congress passed the Air Carrier Access Act, a prohibition on discrimination in air travel based on disability. From the treatment received by my constituents since the passage of the Air Carrier Access Act, it is obvious that neither the airlines nor the FAA has taken the Air Carrier Access Act seriously. In fact, the FAA has been talking for the past year of regulations implementing the Act which will be in direct contravention of its letter and spirit. These proposed FAA regulations have now reached their final stage of internal preparation and will probably be proposed and published by the time this hearing is held. On their surface, the proposed FAA regulations will pretend to adhere to our prohibition on discrimination. But only on the surface. For the entire history of air travel, there has been no seating restriction based on blindness. There has never been an incident involving a blind passenger jeopardizing safety. There is no evidence that blind passengers pose a safety risk. Yet, the FAA-proposed regulation will say that sight is a necessary function for seating in some parts of the aircraft and will require the airlines to follow each rule. I might add here that the airlines are not unwilling, they have wanted this restriction all along, and the FAA is merely doing their bidding.

But the proposed FAA rules will not restrict seating on the basis of a whole constellation of factors which can be shown to affect safety such as sobriety, absence of heart condition, strength under stress, and numerous other conditions invisible to the naked eye. They will restrict the blind and a few other easily visible classes in a blatant attempt to provide a "safety" justification for prejudice.

I support the Air Travel Rights for Blind Individuals Act, S. 341. It is the only way to solve this problem. Blind persons have sought to teach airlines about their capabilities for years. Blind persons through the National Federation of the Blind have sought to teach the Federal Aviation Administration about their capabilities for years. Neither effort has borne fruit – and not for lack of trying by the blind. It is time for Congress to act. The blind have no other protector for their rights. We must protect them. I urge you to report favorably the Air Travel Rights for Blind Individuals Act for prompt passage. Let us put this issue of discrimination behind us and move on to creating opportunities for the blind.

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President Maurer Appears on "The Today Show"

Marc Maurer, President, National Federation of the Blind, leads the largest group of organized blind citizens in existence. The Federation has more than 50,000 members.

(Note: This article appeared in the July 1989 issue of *The Braille Monitor,* a national magazine published by the NFB.)

On March 13, 1989, the Federal Aviation Administration published a rule in the Federal Register *prohibiting blind persons from sitting in exit rows on airplanes. On March 14, 1989, hearings were held before a Senate committee concerning legislation to prevent this discrimination. Earlier on March 14 Marc Maurer (President of the National Federation of the Blind) appeared on NBC's popular morning program,* The Today Show. *Here is the transcript of that appearance:*

Bryant Gumbel: One in 500,000 Americans are blind, a fact that leaves them heavily dependent on others for transportation. In their efforts to be treated like anybody else, blind people now have a bone of contention, they say, to pick with the airlines and have turned to the federal government for action. For years airlines have tried to restrict just where blind people can sit on planes. [Roll videotape of Russell Anderson attempting to buy a ticket at Washington National Airport after he had been removed from a U.S. Air flight on which he had been assigned an exit row seat.]

Ticket Agent: Do not assign blind or deaf passengers or anyone who would obviously encounter a difficulty operating or exiting through an emergency exit window. . .This is our policy. . .

Mr. Gumbel (voice-over): This is what happened a few years ago when a blind attorney asked for a seat in an emergency exit row.

Ticket agent: I'm sorry, that seat's already taken. I can give you another seat.

Russell Anderson: 12-B

Ticket agent: That. . .that seat's already taken.

Mr. Anderson: I'd be happy to sit in 12-D.

Ticket agent: That seat's taken too.

Mr. Anderson: Then I'd be happy to sit in 12-E.

Ticket agent: That seat's already taken.

Mr. Gumbel: Airlines have cited safety concerns to keep the blind out of exit row seats. But some claim that's discrimination. Today the Senate Subcommittee on Aviation will hold hearings on legislation that will prohibit airlines from enacting such policy. One key witness scheduled to testify in Washington is Marc Maurer, the President of the National Federation of the Blind, who's in our newsroom this morning. Mr. Maurer, good morning.

Marc Maurer: Good morning.

Mr. Gumbel: You've no doubt taken this problem to the airlines. What's been their response?

Mr. Maurer: Their response has been primarily to ignore the blind and, sometimes, to bring up the kind

(Continued on page 8)

President Maurer Appears on "The Today Show"

(Continued from page 7)
of talk which says, "This is all a safety matter," when, in fact, it isn't a safety matter. As a matter of fact, the National Federation of the Blind about four years ago did an evacuation of a DC-10. That DC-10 was at the Baltimore-Washington International Airport. We have videotapes of that, and if you examine the videotape of that evacuation, you won't know (unless you have advance information) which of the people getting out of that plane is blind and which of those people is sighted. You just can't tell.

Mr. Gumbel: But do you question the motives of the airlines in this case? I mean, do you doubt they believe they're doing this for what they see as the common good?

Mr. Maurer: The airlines say that if they became blind they wouldn't know what to do, and I believe that. If a sighted person becomes blind today—if you take a blindfold and put it on right now—you won't know very much about being blind. The Federal Aviation Administration has said it's all a matter of safety, and the way they came to that conclusion was this: They took a bunch of sighted people, and they made them into simulated blind people. They said that they couldn't have blind people jump out of an airplane because it was too dangerous. So they got a bunch of sighted people, and they blindfolded them, and they said, "now these people are blind, and consequently, we'll make a test." Well it doesn't make any sense to take a sighted person and blindfold him and expect him to be able to behave as a blind person does. They don't have any experience or any training. If you become blindfolded right now, I can beat you at most anything you try, because I know how. So you take blind people who have experience and compare them to the sighted people. As I say, in this evacuation we did four years ago, unless you know, you can't tell the difference.

Mr. Gumbel: But, Mr. Maurer, sighted people have a stake in this. I mean, can you not empathize a little bit for their, perhaps, feeling a degree of discomfort in the knowledge that a blind person might be sitting in an exit row?

Mr. Maurer: Only if they don't know what's involved. There was a blind person on a plane that landed in San Francisco not too long ago, and that plane didn't have landing gear that would go down, so they had to cover the whole area with foam so that the plane could land on it. The blind person was there, the lights went out, it was night, and that blind person helped a bunch of people find the exit. Therefore if you have a blind person on a plane, and if it's either dark and the lights are out, or there's smoke in the cabin so that you can't see, a blind person helps.

Mr. Gumbel: When we're talking, Mr. Maurer, about only a handful of seats, why is this exit row such a big deal?

Mr. Maurer: It's a matter of discrimination because if you say that this group is capable and can be in this area, and this group is not capable and can't be in this area, then it's a matter of discrimination. You know, years ago there were lots of restaurants, and black people could be in *these* restaurants, but they couldn't be in *those* restaurants, and everybody said, "Well, why do you really care? Sure, you can't eat in this restaurant, but you can go down the street and get some food. You're not going to starve." So why do black people care? It's the same argument. You say, "You are second class, and therefore we can tell you what you must do," and it's not true. The evidence doesn't show it. The FAA says it's a matter of safety. Do they have one incident, in all of the history of aviation, in which a blind person has contributed to an injury? They don't, not a one. They came out with a study last Friday which said that it was all a matter of safety. Well, that study goes back to 1973. How many incidents have there been since 1973? That's over 15 years. How many incidents have there been where a blind person has contributed to one single injury? Not one. Well, how many have there been before 1973? Not one. So where is the safety question, I'd like to know?

Mr. Gumbel: So, do you think you have the public support on this, or do you even care about that?

Mr. Maurer: Oh, I do care about it greatly. I think if the public understands, then the public will be with us. The public is worried about it, of course; everybody's worried about airline safety. Do I care about safety? You bet I do. Do the blind of America care? Of course we do—we want to be as safe as everybody else. But we think that what the FAA and the airlines are trying to do together is diminishing the safety on planes.

Mr. Gumbel: Marc Maurer, I thank you very much, sir, and wish you well today.

Mr. Maurer: Thank you, sir.

A Letter to the Federal Aviation Administration

by Ed Bryant

After reading the articles in this issue of ***Voice of the Diabetic*** *concerning the airline safety hoax, I'm sure you will agree that there is discrimination. I hope everyone reading this will support blind citizens by writing letters to U.S. Senators and Representatives.*

At this writing, August 15, it appears the Senate is in favor of S. 341 (The Air Travel Rights for Blind Individuals Act).

I urge you to send correspondence to your U.S. House Representative(s) asking them to support HR. 563 (The Air Travel Rights for Blind Individuals Act). *Letters to Senators will be helpful, but, again, please write to your U.S. House Representative(s).*

If you need additional information regarding this matter, please feel free to contact our national president at: National Federation of the Blind, Mr. Marc Maurer, 1800 Johnson Street, Baltimore, MD 21230; phone: (301) 659-9314.

Following are three letters: One I sent to the Federal Aviation Administration; a response to my letter from Harold Volkmer, U.S. Representative from Missouri; and the letter he sent to the Honorable Samuel Skinner, Secretary of Transportation.

Columbia, Missouri
May 17, 1989

Federal Aviation Administration
Office of the Chief Counsel
Attn: Rules Docket AGC-10 Docket #25821
Washington, D.C.

To Whom It May Concern:

The Federal Aviation Administration (FAA) has proposed a rule to prohibit blind people from being assigned to seats near all emergency exits on all types of aircraft. The proposed rule was published in the Federal Register on March 13, 1989.

The proposed rule change is ridiculous! There are widespread misconceptions regarding the blind, but the FAA is outrightly discriminating, or it is attempting to. What the FAA is attempting is un-American and I believe that there is no justification for the proposed rule. I am astonished that such nonsense and unfairness toward a minority group, the blind, would be allowed to reach this point.

Following are the reasons as to why the proposed rule should not be allowed:

I understand that the FAA has never had a rule to prohibit blind people from being seated near emergency exits. Furthermore, there is no objective or reliable evidence to support the proposed rule. This fact alone makes it clear that the proposed rule has no merit. The FAA has existed for many years and has established rules and regulations for millions, perhaps billions, of air travelers, both sighted and blind, who totaled have travelled billions of miles. With all of this travelling, there is still no evidence that shows blind citizens contributing, or having contributed, to an injury or delaying an evacuation during a flight.

The airlines sometimes claim that the reason there hasn't been any problem is that blind people have never sat in emergency exits. I happen to be blind and assure you that the airlines are wrong when they make this claim. I am a seasoned traveler, having travelled several million miles over the past 25 years. On occasion I have been seated, on different airlines, in the emergency exit row seats. These seats were assigned to me by airline personnel who deal with consumers on a daily basis.

I understand that there has never been an incident in which a passenger's blindness became a factor in slowing an evacuation. Without reliable documentation, there is absolutely no justification for the FAA to propose this regulation about the assumed inabilities of the blind. I know from firsthand experience that blindness is not synonymous with inability. If there is an emergency where evacuation is required, then without doubt, I will not slow the evacuation. What if the lighting failed and/or there is smoke in the cabin? It seems obvious to me that blind air travelers who are accustomed to the dark would be at an advantage and, if seated near an exit, would help rather than hinder the evacuation.

I also understand that tests by the FAA have not demonstrated that blind

passengers cannot open and use emergency exits as fast as others. Furthermore, blind people were not allowed to participate in the evacuation tests conducted by the FAA at the Civil Aeronautical Institute. These were tests done by the FAA in the early 1970's. I do not feel that they are relevant to this proposed regulation, as their reliability is very questionable. The FAA relied on the same tests and the information gathered in them in 1977 when it decided that a seating restriction regulation was not necessary at all. How can the FAA use the same tests to come to completely opposite conclusions?

The proposed regulation is inconsistent with the policy of the Air Carrier Access Act. Without evidence that this would be a safety hazard, the FAA is planning to restrict seating of the blind.

Again, this is ridiculous and probably against the law. The proposed regulation appears to be based on the false assumption that blind passengers seated near exits would be less safe than others seated there.

I have been on many flights where sighted people seated by or near exits would be likely to hinder evacuations. I understand that exit doors weigh between 40 and 80 pounds, which would make it difficult, if not impossible, for children, the elderly, and non-ambulatory persons to open. Also, the sale of alcohol is a major source of revenue for airlines. I have been on countless flights during which people, due to alcoholic consumption, did not have full control of their faculties. Some people, who consume alcohol in moderation, become intoxicated during airplane flights, perhaps due to the change in air pressure or the promotion of alcohol by the airline attendants. Still others have consumed alcohol before boarding and, after boarding, continue drinking. I have never seen a flight attendant refuse an alcoholic drink to anyone, regardless of how obviously inebriated they were. I have seen some passengers who were unconscious due to alcohol. Logic and common sense should tell us that people who drink too much do not make good decisions and are slow in reacting. This is easily verified by the thousands of automobile deaths caused each year by alcohol. It is absurd that the FAA would allow unsafe passengers, i.e., alcohol consumers, near exits. It is nonsense that healthy and strong blind persons would be restricted while drunk passengers with impaired judgment would not be restricted.

The FAA and airlines are discriminating against the blind of America. There are pervasive convictions about the inabilities of the blind; unfortunately, these unlawful attitudes appear to be perpetuated by the hierarchy of the FAA and the airlines.

As stated initially, the proposed regulation is ridiculous! In good conscience, I hope and believe that this regulation, which is discriminatory and is supported with no evidence, will not pass.

Sincerely,
Ed Bryant

Copy sent to U.S. Senators and Representatives.

• • •

Washington, D.C.
June 8, 1989

Ed Bryant
Columbia, MO

Dear Ed:

Thank you for contacting my office to express your thoughts regarding the proposed rules by the Federal Aviation Administration regarding limiting the seating of blind passengers.

I understand your concerns and have written the Secretary of Transportation to make my thoughts known. I have enclosed a copy of my letter to the Honorable Samuel Skinner.

I am glad you took the time to bring your thoughts to my attention, and I hope you will continue to contact me in the future.

With best wishes, I am,

Sincerely,
Harold L. Volkmer

• • •

Washington, D.C.
June 7, 1989

Samuel Skinner
Secretary of Transportation
Washington, D.C.

Dear Samuel:

I am contacting you to make my thoughts known regarding proposed rules to limit the seating of blind passengers on all aircraft.

I find these proposed rules to be discriminatory and unfounded and would hope that you would reconsider this limitation of where blind persons can sit on an aircraft.

I will be monitoring this issue and would hope that you would seriously consider my views.

With best wishes, I am,

Sincerely,
Harold L. Volkmer

The Transplant Question

by Donald Jewler

The difficulty of life is in the choice.
— George Moore

Which patients with insulin-dependent (type I) diabetes should get a pancreas transplant? That's a question physicians at the leading transplant centers in the United States have been asking. Coming up with an answer means more than choosing the right medical criteria. It means making philosophical judgments about the quality of life.

Until recently, most doctors believed that the choice was clear. Neither the success rate nor the chance for preventing complications was high enough to justify doing pancreas transplants in any but the sickest patients. It was not considered ethically justifiable to take someone doing well on insulin therapy and proceed with a pancreas transplant operation that could itself be life-threatening. As a result, transplants were generally restricted to patients who already had advanced kidney disease and needed a kidney transplant.

That may have been the only ethically sound decision, but in one way it didn't make much sense: A transplant can do little to reverse advanced complications of diabetes like end-stage renal disease. Wouldn't it make more sense, some transplant specialists argued, to do transplants before complications progressed so far, when there was still a chance to prevent complications?

Now, several major transplant centers in the United States have begun to do just that. They have begun doing pancreas-only transplants in people who do not yet need a kidney transplant. The hope is that the new pancreas will help stop the progress of kidney disease in the patients, who otherwise would progress to end-stage kidney disease.

The reasons for the shift in criteria for a transplant are complex. To understand them and to judge the wisdom of this change, you need to examine how a pancreas transplant can change life—both for the good and the bad.

The Downside

The bad can be very bad. Consider the case of Kathy Parker, 43, of Palatine, Illinois. "When you first start learning about a transplant, it sounds very rosy," she says. "It is not."

Kathy had her pancreas transplant in August 1987. For the first time in 27 years, she was free from insulin shots. But it cost a lot more than the $40,000 hospital charge.

To keep her immune system from rejecting her new pancreas, Kathy—like all transplant recipients—had to take powerful immunosuppressive drugs. Her life, she said, was controlled by daily doses of cyclosporin, prednisone, and imuran. She took about 50 pills a day and daily doses of Maalox to prevent ulcers. It's little wonder that Kathy's prescription bills went sky-high; cyclosporin alone costs more than $800 each month.

Many people experience severe side effects from the drugs. Cyclosporin, for example, may damage the kidneys more than the diabetes. And it may also raise blood pressure.

Kathy reacted well to cyclosporin—except for a few weeks of trembling hands. But she didn't react well to a new medicine called OKT-3. She developed a high fever and had to contend with treatment that included putting ice all over her body. What's more, Kathy lost her hearing for several months.

Because these drugs blunt the immune system throughout the body, transplant recipients have an increased risk of viral and bacterial infections. Kathy noticed she was having frequent, long-lasting colds that went to her chest.

Through it all, Kathy learned to live with hospitals. She was going three times a week for lab tests and monitoring. During times when her immune system seemed to be attacking the new organ, she needed one-week hospital stays.

In the end, Kathy's immune system defeated all attempts to save her transplant. The new pancreas failed after six months.

Despite her suffering, she has no regrets. "All in all, I'd do it all over again," Kathy said. In fact, she's now waiting for a second pancreas transplant.

Why would anyone choose to go through such an ordeal once, let alone twice?

Prospects For Prevention

The answer is not freedom from injections. Although Kathy loved her brief holiday from needles, that was not her reason for opting for surgery. In fact, no transplant surgeon would consider going ahead with surgery if the only benefit were freedom from insulin.

The real reason Kathy decided to have a pancreas transplant—and the reason why she's willing to go through with a second one—is the hope that it will slow or halt complications.

Kathy first noticed signs of retinopathy about 10 years ago. Today, her eyesight has deteriorated to a point where she can no longer read a book or drive. Her kidneys, although still functioning, show signs of disease. Neuropathy started 12 years ago, and now Kathy has trouble walking and can't run.

"I get along in the world pretty well, but I don't want my complications to go any further," Kathy said. Her hope is that with a successful pancreas transplant she'll become a healthier person.

And there's medical evidence to suggest that she may. Research shows that a pancreas transplant can stop and—in some cases—reverse

(Continued on page 12)

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**Diabetes Care* 1988.11(9).753-754

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The Transplant Question

(Continued from page 9)

serious complications of diabetes when it's done early enough. For example, kidney function improves after a successful pancreas transplant in people still in the early stages of kidney disease. Kidney lesions seem to heal.

And the progression of retinopathy may stop. Researchers at the University of Minnesota studied successful pancreas transplants in non-kidney transplant patients. During the first two to three years after the transplant, there was no difference between the patients with functioning pancreas versus failed transplant. There was no reversal or prevention of the progression of retinopathy. But after three years, retinopathy was stable in those with a functioning pancreas, whereas there was continuous progression in the failed group.

Neuropathy may improve. Studies at the University of Minnesota have shown that autonomic nerve function remained stable or improved in people after successful pancreas transplantation. Studies included people who had a kidney transplant before a pancreas transplant, as well as people who had a pancreas transplant only.

Circulation in the small blood vessels may improve. Studies at the University of Munich in West Germany have shown an increase in capillary blood flow in the skin of the feet in patients who have had successful pancreas transplants. Presumably, they have an improvement in the circulation of the small blood vessels.

Changing Medical Criteria

Studies like these are giving surgeons solid ground for believing that transplants—at least those done early enough—do offer people with insulin-dependent diabetes a chance to prevent complications. But the brightening outlook for prevention is not itself sufficient reason for doing transplants earlier. Unless the success rate for the operation is improving, and unless there is some way to predict who will develop complications, early transplants of the pancreas only cannot be justified.

On both counts, there is reason for optimism. Thanks to new technology and better surgical techniques, pancreas transplant success rates are higher today than they were even a few years ago. For 1983-1988 cases, 90 percent survived one year, and only 32 percent had functioning pancreas transplants after one year. These figures are for people who had pancreas transplants alone; they did not need a kidney transplant.

For 1986-1988 cases, one-year patient and one-year pancreas survival rates were 94 and 40 percent, respectively. And the University of Minnesota, which has much experience with pancreas transplants alone, reported patient-survival rates of 96 percent and pancreas-survival rates of 58 percent.

For people who undergo pancreas-only transplants, "The key is really making it safe for them when we do the transplant," says David Sutherland, M.D., of the University of Minnesota Hospital. "If they don't reject, fine; if they do reject, they can go back on Insulin. And they are no different than they were before the transplant. There is very low mortality in this operation." Even if the transplant itself does not survive, most people who have a pancreas transplant operation alone will survive.

There is also progress in being able to detect who is most likely to go on to severe complications. In particular, people with mild to moderate kidney disease have been found to progress almost inevitably to end-stage kidney disease. Good blood-glucose control from a transplant may halt the progression of the kidney disease. Simply said, a pancreas transplant may save the kidneys.

Recently, the University of Michigan Pancreas Transplant Evaluation Committee published new criteria for selecting pancreas transplant recipients who do not have end-stage kidney disease. The criteria are similar to those of Sutherland and his colleagues at the University of Minnesota. According to the Michigan committee—which consists of diabetologists, surgeons, social workers, and a psychiatrist—to be eligible for a pancreas transplant, a candidate must have all of the following:

- insulin-dependent diabetes
- age 18-50
- signs of kidney disease, such as protein in the urine, but not advanced kidney disease (People with advanced kidney disease would be excluded from a pancreas transplant alone; they may be considered for a simultaneous kidney/pancreas transplant or pancreas transplant after a successful kidney transplant.)
- autonomic neuropathy (The University of Minnesota does not require this.)
- no severe coronary artery disease
- thorough understanding of the risks and benefits of the procedure.

These criteria, published in the September 1988 issue of *Diabetes Care*, spell out exactly when diabetic kidney disease is serious enough to merit a pancreas transplant but not too far advanced to do any good: when urine protein levels are above 150 mg per four hours. At these levels, according to the University of Michigan committee, a pancreas transplant may slow or halt the progression of kidney disease. And at these levels, even the best and tightest ot diabetes control would not reverse the kidney damage.

Donald Dafoe, M.D., a member of the University of Michigan Transplant Committee and now a surgeon at The Hospital of the University of Pennsylvania in Philadelphia, has been putting these criteria into practice. He's careful to take pancreas transplant patients whose kidney disease is not too far advanced, but who are definitely heading toward serious complications. In these patients, Dafoe believes, the pancreas transplant is justified because it is likely that the complications of diabetes would be worse than the side effects of anti-rejection treatments.

"Until recently, when success rates began to improve," said Dafoe, "it was an acceptable practice to hold on to the person with diabetes until he or she became very ill [with end-stage kidney disease] and then do a pancreas transplant to salvage the situation. The problem is, at that stage, the situation is not salvageable."

Weighing The Risks

Although surgeons believe the shift to do pancreas transplants alone earlier in the course of the disease is positive, they are careful not to overstate the promise of transplantation. Transplantation is a hard choice to make—an an even harder one to live with.

Sutherland is up front with his patients about the hardships and risks of pancreas transplantation. "I never promise patients it will be easier. It isn't easier," Sutherland said. "I tell them you have to do a lot of management before the transplant. You'll have to do a lot after." That includes the daily regimen of pill taking and continued monitoring of blood-sugar levels—to make sure the new pancreas is still working.

Sutherland told patient Kathy Parker that she would have to spend a lot of time away from her husband and two-year-old daughter: two weeks in the hospital for the initial evaluation, then 18 days in the hospital during the operation itself. He also said there was less than a 60 percent chance of the pancreas transplant lasting more than one year.

"Sixty percent chance? I'll take it," said Kathy. "I weighed what I could face and couldn't face and decided I could go through with the operation. It was a scary decision, but I really wanted the operation. It was my chance to have an equal opportunity for life."

For Kathy, the choice seemed clear. For others—patients and doctors alike—it is much harder to decide whether the benefits of the operation outweigh the risks. "That's one of the great imponderables," said Joseph R. Stanton, M.D., former associate professor of medicine at Tufts Medical School and now a medical ethicist with the Value of Life Committee in Brighton, Massachusetts. "When a transplant recipient dies of complications of therapy, that's a human tragedy. But when you see a transplant work. . .and someone lives quite a normal life in spite of immunosuppressives, it's very, very wonderful."

The physician has the responsibility to clearly state the risks involved in any transplantation procedure, according to Kathleen Nolan, associate for medicine with the Hastings Center in Briarcliff, New York. She believes the decision to go ahead with the operation is a judgment that draws upon personal values of how much risk each person is willing to assume. But rather than waiting for 100 percent survival rates, Nolan is in favor of offering patients the option of making that decision themselves.

The Quality of Life

Making a decision means the patient and doctor work together to decide as best they can the quality of

ON THE HORIZON

One of the major stumbling blocks to transplantation is the need for powerful and potentially dangerous drugs to suppress the immune system after surgery. Hopes are that new immunosuppressive therapies will improve success rates and decrease the side effects of these powerful drugs.

Today, doses of cyclosporin are less than they were just five years ago. And new drugs are on the way. Japanese pharmaceutical firms have developed three very potent anti-rejection drugs that look very good in animal experiments. But, according to University of Minnesota transplant expert David Sutherland, M.D., these drugs will not be available in the United States for quite some time because of the Food and Drug Administration's careful testing program. "I think that some of these drugs appear to be as potent or maybe more potent than cyclosporin and possibly with fewer side effects," said Sutherland.

The future holds a major change in immunosuppression, according to Sutherland. It's called the "induction of tolerance." In this procedure, physicians manipulate the immune system, tricking the body into thinking the graft—any graft, be it the heart, kidney, or pancreas—is the body's own.

Special antibodies temporarily kill off a certain type of white blood cell that helps to stimulate the body to reject foreign tissue. These blood cells, called helper-T cells, eventually grow back to normal levels, but the new cells apparently stop recognizing the transplanted tissue as foreign.

"With induction of tolerance," said Sutherland, "you are tolerant of the [pancreas] graft without rejecting it, but you still retain your immune capabilities to fight off infection normally."

The procedure is being done in rats and mice. Sutherland does not expect the procedure to be perfected and commonplace until the turn of the century.

life with and without a transplant.

Although pancreas transplants may save the kidneys and slow or halt complications of diabetes, whether transplant recipients lead happier, more productive lives is another matter. Ultimately, says Dafoe, the final evaluation of any treatment for chronic illness must include the patient's own satisfaction with the level of well-being and quality of life.

Unfortunately, we don't have quality-of-life indexes for many chronic diseases. "Those kinds of measures have not been developed for specific conditions," said Nolan.

Studies looking at quality-of-life issues are difficult to set up. Researchers need to compare pancreas transplant recipients with a control group of people who want a pancreas transplant but are told, "No, you can't have one until our study is finished. We need to compare your well-being with the group that is getting pancreas transplants." Obviously, when put in such a situation, members of the control group may go elsewhere.

There are ways to design a study so that the patient isn't totally denied the opportunity to have a transplant, according to Nolan. Patients who are waiting for transplantation or who would have met the entry criteria but chose not to enroll can be compared to patients who did receive transplants. "This is a scientific way to meet the ethical objections," said Nolan.

Without ways to measure the quality of life after a transplant, people are left without important information that's relevant to their choice of whether to go ahead with the transplant, according to Nolan. The Michigan Transplant Committee recognized these needs and met several times to discuss quality-of-life issues particular to pancreas transplant recipients.

One concern of medical ethicist Stanton is that transplant recipients may not be involved in discussions of these issues. "I think that a judgment about the quality of life can be morally made," says Stanton, "but I would hope that it would not be made by elites in medicine or ethics."

Soul Searching

The broadened criteria for eligibility for transplants is putting surgeons more often in the role of deciding who will and will not receive a transplant.

In part, the decision is a practical one. Each year in the United States, only about 1,500 pancreases are available for transplantation, according to transplant surgeon Hans Sollinger, M.D., Ph.D., of the University of Wisconsin. That shortage excludes some people who want a transplant.

Beyond the question of availability, the new medical criteria for transplant recipients give physicians standards to judge eligibility, as well as guidelines for when to say no.

"It happens all the time," said Dafoe. "Patients come in with stars in their eyes about the procedure, and we really have to almost try to talk them out of it. We test their understanding to see if their attitude is realistic. In some cases, it's not wise to proceed."

If, for example, a 19-year-old with five years of insulin-dependent diabetes came asking for a pancreas transplant, Dafoe said he'd temper the patient's enthusiasm with his own experience and firmly steer the transplant candidate away from the operation. "Clearly, the risks of the operation and the subsequent immunosuppressive therapy outweigh the benefits. I'd tell the 19-year-old to sit tight for 10 years because there will be developments in pancreas transplantation," said Dafoe.

Cost

Cost is another problem that doctors—and society at large—will face as more people get transplants. When Kathy enters the hospital, her health insurance will cover most of the costs and pay for her daily doses of immunosuppressive drugs. She considers herself lucky. For people without good health insurance, this procedure is probably far out of reach.

Nolan believes it's sensible to look at the cost of a new medical therapy before or as it's being introduced. "Analyzing costs should be done the same way that quality-of-life analysis is done," she said.

Sutherland, like most transplant experts, believes that long-term studies are still needed to weigh the benefits against the risks. "We're still not pushing this [operation] very much. We still have to contend with the side effects of anti-rejection drugs, but I think that will eventually be overcome," said Sutherland.

Today the pancreas-plus-kidney transplants vastly outnumber pancreas-alone transplants. Both Sutherland and Dafoe believe the figures will become more nearly equal as the years go by, and more and more people with mild to moderate kidney disease will be getting pancreas-alone transplants. "It will happen very gradually," said Dafoe, "but certainly that will be the trend. It's a problem of reeducating people to begin thinking of pancreas transplants at an earlier stage of kidney disease."

New medical criteria notwithstanding, choosing who should get a pancreas transplant and who should not means making difficult, soul-searching decisions. Health-care professionals must carefully evaluate each transplant applicant's health and motives when determining transplant eligibility. According to medical ethicist Stanton, medical criteria—like those of the University of Michigan—are fine as guidelines, but they must not ignore the unique needs of each applicant.

Donald Jewler is Special Projects Editor with the ADA.

(*Note:* Reprinted with permission from *Diabetes Forecast,* December 1988, © American Diabetes Association. For more information: 800/ADA-DISC.)

Why You Should Teach Your Diabetic Patients to Chart

by Denise J. Bradley

Denise J. Bradley explains the importance of teaching diabetics to chart.

Charting is a skill we associate with nursing, but have you ever thought of teaching your patients to chart? I hadn't until a friend with diabetes showed me how keeping careful records has helped her take control of her disease and her life.

Although self-charting can benefit anyone who's chronically ill, it works particularly well for diabetics, who need to regulate their insulin dose, food intake, and activity level. It can help them avoid insulin reactions and delay, prevent, or even reverse complications from hyperglycemia. Because diabetic patients are accustomed to keeping records for their doctors, they might be more conscientious than other patients about keeping records for themselves.

Juggling the big three

Controlling diabetes means juggling the "big three"—food, exercise, and medication—while keeping an eye on a fourth element, time. The length of time the body takes to digest different foods, the rate at which exercise burns calories, and the action and peak time of the insulin prescribed are all critically important in maintaining a diabetic patient's delicate balance. Because the time element varies so much among patients, self-charting is the best way for a patient to learn his own body timing so his juggling act can be successful.

Self-charting is simple to do, but it takes planning and perseverance. Here's the method my friend and I outlined for a diabetic patient.

For Better Diabetes Control: A Guide to Self-Charting

First, buy a small spiral-bound notebook you can carry with you all the time. Begin your charting on the second page, by writing the date in the upper left-hand corner, then dividing pages two and three into five columns, with these headings: Time, Blood Sugar, Insulin, Food, Exercise/Event. Use two new pages each day.

Marking time

In the first column, record the exact time you test your blood sugar, take your insulin, eat, exercise, or experience an event. (We'll explain what we mean by an event later.) Jot this information down immediately rather than relying on your memory later.

Why is recording exact times so important? Let's say you have an insulin reaction right before dinner. You try to figure out why, but you can't remember eating any extra food or exercising more than usual, and you know you took your usual dose of insulin. You feel frustrated and defeated because even though you followed the rules, your diabetes is still out of control.

If you had a good charting system to rely on instead of just your memory, you could see at a glance that you took your insulin 15 minutes earlier than usual and exercised for 10 minutes longer than normal. You'd have written proof that even minor changes can profoundly affect your blood sugar level. Knowing this, you could plan ahead. For example, if you knew you'd be getting more exercise than usual one day, you could probably prevent another insulin reaction by having a fruit snack before you exercised. In other words, you'd know when to make adjustments in one area of your life to accommodate changes in another area.

Charting blood sugar

In the second column, chart your blood sugar level each time you test it. Blood sugar levels measure how well you're balancing insulin, food, and exercise. If the level is within an acceptable range (usually between 70 and 160), you should continue what you're doing. If the level is too high or too low, you need to adjust your insulin, food, or exercise.

This is where self-charting pays off. You can review your chart and ask yourself: "What did I do today that might have affected my blood sugar?" Perhaps it was that furniture you moved (recorded in the "Exercise/Event" column) or that extra piece of pizza you ate (recorded in the "Food" column). Whatever the cause, you'll learn from your experiences, and as your self-knowledge increases, you'll not only be controlling your blood sugar, you'll also be controlling your disease and your life.

Charting insulin

In the third column, record the amount of insulin each time you take it. This record is especially important if you're on a sliding-scale program or if you use short-acting insulin regularly. Of course, to prevent high or low blood sugar levels, you must also understand the duration of action and peak time of your medications. If

(Continued on page 14)

Chart

(Continued from page 13)

you're confused about these, ask your nurse or doctor.

Charting food

In the fourth column, record everything you eat every day. Remember, you're charting *for your own information,* not to avoid a lecture from a nurse or doctor, so be completely honest.

How can charting exact food intake help control diabetes? Let's say your blood sugar level rises and you want to find out why. If you look back through your records, you'll find the answer—you might have had some extra bread exchanges, for example. Now you know you need extra insulin or additional exercise to ward off hyperglycemia.

You should be aware that different foods are burned for energy at different rates, so eating the right combination of foods is the surest way to maintain a steady blood sugar level. Although you should avoid foods high in sugar because they'll cause your blood sugar level to shoot up quickly, you can have sweets occasionally if you balance them with exercise, short-acting insulin, or trade-offs in your diet. High-sugar carbohydrates are the best treatment for low blood sugar because they are digested so quickly. Proteins help maintain blood sugar levels because they're absorbed and burned for energy at a slower rate. And fats, the most concentrated form of calories, are stored energy the body uses at a later time.

Some diabetic patients maintain better control by eating six small meals a day instead of three large ones plus snacks. You can learn more about how foods affect blood sugar levels by reading about diabetes or by consulting a dietitian. A dietitian can suggest different foods so you can experiment and see how your body reacts.

Charting exercise/events

In the fifth column, record all the exercise you get during the day. This includes the hour you spent helping a friend move furniture as well as the 30-minute aerobics class you attended. Which activity uses up the most sugar for energy? Find out by checking your blood sugar level afterward, recording it, and then studying your records.

Also chart life events in the fifth column. This is more difficult than charting exercise. What constitutes an event? It's anything stressful or out of the ordinary that happens to you—having the flu, menstruating, arguing with your boss, having an insulin reaction, or taking another medication besides insulin. By charting carefully, women might learn that their sugar metabolism has a cyclic nature. Some patients might also learn that good news throws off their blood sugar levels just as easily as bad news does. Without charting, many patients would probably never connect these events to fluctuations in their blood sugar levels.

Of course, you can't completely avoid emotional situations; they're part of life. But you *can* learn to adjust your food intake, insulin dose, and exercise to maintain that delicate balance.

Knowing yourself

Self-charting can help you get to know your body and develop instincts about yourself that your nurses or doctors will never have. But developing these instincts takes time, so you probably won't see the advantages of daily charting immediately. Don't feel discouraged by this or by any mistakes you make in regulating your insulin, diet, or exercise. Self-charting *will* take time and determination. But the reward can be a longer, healthier life.

Mary Poppins

(Continued from page 3)

insulin, to control blood sugars, are included in this problem, as you may have a low blood sugar from oral hypoglycemics, too. Granted, they are not experienced nearly as often, but they do happen. The newest and probably most popular of the "Second generation" oral medications, Micronase, has less likelihood of causing hypoglycemia among its users, but it can happen. The older oral medications, i.e., Orinase, Diabinase, etc., are more at risk for causing hypoglycemia.

In fact, I recall an incident some time ago, when a fourteen year old girl attempted suicide by swallowing her Grandma's bottle of Orinase. She was hospitalized, given all emergency treatment, and placed on a glucose I.V., and hovered between life and death for seven days. No sooner would her blood sugar go up to 70, than it would drop to 22. (She did pull through.)

Carry sugar with you all the time. Premeasured packets can be carried in pocket or purse in a plastic sandwich bag and with a half dozen or so envelopes with you at all times, you can be free from fear of a sudden reaction in an inopportune place. Just open a packet and pour it into your mouth. You can repeat as necessary. This can also be done if the diabetic has lost consciousness, as the sugar will absorb through the mucous membranes of the mouth, and need not be swallowed. Place the sugar under the tongue or between the cheek and the teeth.

The mother of a VERY non-compliant 10 year old once complained to me that her daughter was faking insulin reactions in all her classes at school to get the teachers to give her candy. I recommended using the sugar method, and that ended the problem.

So remember Mary Poppins, and keep your 'antidote' handy.

Ask Dr. James

by Ronald James, M.D.

Ronald James, M.D., long-term insulin-dependent diabetic, directs Midwest Diabetes Treatment and Education Center, Columbia, Mo. Dr. James is also the Medical Director of the Central Missouri Diabetic Children's Camp, Inc.

(Note: If you have any questions for Dr. James, please send them to the editor. The only questions Dr. James will be able to answer are the ones used in his column.)

Can my children get diabetes from eating too much sugar?

No. Almost all children develop diabetes because they produce antibodies which destroy the insulin producing beta cells in the pancreas. This is not influenced by eating too much sugar.

Is diabetes inherited, and if so, how?

Most likely. Available data support a significant role for heredity in diabetes or at least in the susceptibility to developing it. There is little doubt it runs in families. However, several genetic models have been proposed, but no one is generally accepted as correct. It may be that different families have different modes of inheritance. Also the genetic relationship, or lack thereof, between Type I and Type II diabetes is not clearly understood.

Is it true that Type II diabetics produce some insulin and that it is not used correctly by the body?

Yes. Type II diabetics are resistant to insulin, thus requiring higher than the usual levels to get a normal response. Since they also have a limited ability to produce insulin, they may not meet this increased requirement and thus develop high blood sugars and other signs of diabetes.

New Synthesized Chemical Helps in Diabetes Treatment, Muscle Enhancement

Dr. Gary Evans, a chemistry professor at Bemidji State University, has synthesized a chemical that has been shown to lower blood sugar in diabetics and decrease cholesterol levels in patients with poor diets. The chemical, chromium picolinate, has also exhibited characteristics in recent studies which indicate that it may be a safe substitute for anabolic steroids.

Evans began studying the substance while serving as a research chemist for the USDA. The work he and colleagues performed at the Human Nutrition Laboratory in Grand Forks, ND, proved that the human body must produce a chemical called picolinic acid to maintain good health.

After arriving at BSU, Evans extended his research to include chromium. The scientific community knew that chromium exhibited certain healthful and beneficial characteristics, but it did not have the correct organic form for efficient application.

Evans and research students at BSU identified and chemically broke down chromium picolinate, which is commonly found in brewer's yeast and animal kidneys. The extraction process from these sources, however, proved time-consuming, tedious and expensive. Evans then developed a simple and cost effective method of chemically producing the nutrient.

In collaboration with Dr. Ray Press of Mercy Hospital in San Diego, studies were completed that showed chromium picolinate lowered both the blood sugar and the cholesterol in patients who received the chemical. In effect, chromium picolinate enhanced the efficient use of insulin produced by the body.

"This could affect millions of people in the United States who have Type II or what is commonly known as adult onset diabetes," Evans said. "They are not insulin-dependent and rely on the pancreas to produce the insulin they need to function normally.

"The introduction of chromium picolinate allows the body to make the most efficient use of the insulin it can produce. In essence, less insulin will be needed to perform the function of lowering glucose levels."

Evans also indicated that it might also benefit those with Type I diabetes, the name of the disease given to

cases where the individual is dependent on insulin introduced to the body's system. While chromium picolinate will not eliminate the dependence, it may require smaller doses to achieve the same results.

The study also showed that LDL cholesterol, the so-called "bad cholesterol," and the protein that carried this cholesterol were both decreased in people who took chromium picolinate supplements. This could help lower cholesterol in people who eat poor diets, Evans said.

The research was presented recently at the annual meeting of the Federation of Societies for Experimental Biology.

Evans conducted further studies at BSU in collaboration with Dr. Muriel Gilman, professor of physical education, and graduate assistant Guy Otte. The chemical's effect on muscle development was the focus of two studies, which showed that chromium picolinate accelerates production of muscle protein and helped convert fat to muscle.

"Used in recommended quantities, it appears as if chromium picolinate achieved the same results as anabolic steroids and that the nutrient may be a safe, effective substitute," Evans said. "Research has shown no side effects."

As a nutrient that is already found in certain levels in the body and not a drug introduced as a foreign substance, chromium picolinate is acceptable to federal regulating agencies.

Evans commented that further tests are being conducted across the country and that another study is about to be initiated at BSU. The results of the completed Bemidji State research will be presented at a regional meeting of the American Chemical Society meeting in May.

The nutrient is currently being marketed by a number of companies in health food stores across the country. Evans also noted that, as with any substance, excessive use could lead to side effects and was not recommended.

"It is interesting that this chemical can help diabetics, poor eaters and athletes," Evans said. "It is possible because chromium picolinate serves as an insulin 'booster.'

"Insulin regulates blood glucose levels, controls the production of cholesterol and directs amino acids from the blood into muscle. Chromium picolinate apparently potentiates the normal actions of insulin and allows this very important hormone to do more with less."

Because of his expertise in the area, Keats Publishing Company asked Evans to author *The Picolinates*, a book which will be published in mid-April and distributed through health food stores throughout the U.S.

For more information, contact Dr. Gary Evans, professor of chemistry, Bemidji State University, Sattgast Hall, 1500 Birchmont Drive NE, Bemidji, MN 56601-2699. Phone: (218) 755-3113 or (218) 755-2920.

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Soaring Prevalence of Diabetes in Blacks: A National Concern

(*Note:* This article appeared Spring 1989 in *Diabetes Dateline*, a publication of the National Institute of Health, Department of Health and Human Services.)

The rising rate of diabetes in U.S. minority populations is emerging as a major public health concern. It is becoming increasingly apparent to diabetes experts that, to reduce the human and economic costs associated with diabetes in this country, special efforts must be directed to the diabetes problem as it affects Hispanics, black Americans, and Native Americans. The last issue of DATELINE focused on the problem of diabetes in Hispanics. This issue will address the impact of diabetes on American blacks.

Although the prevalence of diabetes in white, non-Hispanic Americans has remained relatively stable since the mid-1970's, it has grown at an alarming rate in the black community. A report issued by the National Center for Health Statistics (NCHS) in 1987 documented a fourfold increase in the number of black persons with diagnosed diabetes, from an estimated 228,000 persons in 1963 to approximately 1 million persons in 1985. In contrast, the number of whites with diabetes increased by about 2-½ times; most of this increase took place between 1963 and 1975.

Statistics compiled by the National Diabetes Data Group at the National Institutes of Health show that the rate of noninsulin-dependent diabetes mellitus (NIDDM) in blacks is 50 to 60 percent higher than in whites. Among black women, diabetes can almost be termed epidemic: One in four black women older than 55 has diabetes—double the rate in white women.

Blacks also experience higher rates of at least three of the serious complications of diabetes: blindness, amputation, and end-stage renal disease (ESRD). The rates of severe visual impairment are 40 percent higher in black diabetes patients than in white patients. Black patients undergo twice as many amputations as do white diabetes patients, and a study in Michigan found that the rate of ESRD was four times higher in blacks with diabetes.

According to the NCHS report, the higher diabetes rate in blacks prevails across all major sociodemographic parameters—age, sex, educational level, marital status, living arrangement, and regional category. Among blacks, the prevalence of diabetes is highest in women, older people, the less educated, the formerly married, persons living alone, and persons in families with low incomes. In addition, diabetes is more prevalent among blacks living in the central city and those living in the western United States.

Many of these facts were reported at a national conference on diabetes in the black population held in September 1988. The conference, which was chaired by Dr. Louis W. Sullivan, former president of the Morehouse School of Medicine and now Secretary of the Department of Health and Human Services, was sponsored by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), the Office of Minority Health (OMH), the Centers for Disease Control (CDC), and the American Diabetes Association (ADA). The meeting brought together leading diabetes researchers and clinicians to assess current knowledge about diabetes in the black population and to examine issues and factors that may be involved in the development and management of diabetes and its complications in black patients.

Other findings or issues noted at the meeting included:

- Black people have a higher prevalence of obesity, a strong risk factor for NIDDM. Among people with diagnosed NIDDM, 82 percent of adult black women are obese compared with 62 percent of white women; among men, 45 percent of blacks are obese compared with 39 percent of whites.
- Blacks are known to have a high prevalence of hypertension, which is associated with retinopathy and renal and cardiovascular complications, major complications in black patients. Conferees noted that studies are needed to elucidate the disease processes involved in these conditions in black patients and to develop better methods of prevention and treatment.
- Studies of dietary habits of the black population indicate that they consume less fiber and more cholesterol-rich foods than do whites, although their total calorie consumption and fat intake are lower.
- Blacks tend to have less access to financial, social, health, and educational resources that would help improve their health status and health awareness.
- Several speakers noted the lack of diabetes educational resources oriented to black patients. Materials and approaches are needed that take into account black lifestyles, interests, and cultural and economic considerations.

In summing up the major messages from the conference, Dr. James R. Gavin III, chief of the diabetes section at the University of Oklahoma Health Sciences Center, called for a variety of studies and initiatives to address the diabetes problem, which he said was "ravaging the black population." He cited the need for a mix of scientific, behavioral, and social investigations, including studies to define the genetic pedigree of diabetes in blacks; studies to determine the nature and role of fat distribution in blacks and its relationship to diabetes; research to assess the influence of socioeconomic and psychosocial factors in the black population; research to develop optimum treatment strategies for the complications of diabetes and for hypertension in blacks; behavioral studies on dietary and cultural influences in the black community; and development of educational materials that are relevant to black concerns and lifestyles.

He also cited the need for collaborative efforts by multiple institutions in affected communities, including the involvement of black community leaders to raise the level of public awareness about diabetes among blacks.

A second conference in March 1989, "Diabetes in the Black Population: Imperatives for Action," is focusing on establishing priorities and strategies for public education and for community organization programs aimed at the prevention and control of diabetes in the black population. This meeting, sponsored by CDC and cosponsored by NIDDK, OMH, and ADA will be reported in a future issue of *DATELINE*.

References and additional readings:

1. Drury TF, Powell AL. Prevalence of known diabetes among Black Americans. National Center for Health Statistics, July 31, 1987; (NCHS advanced data: no. 130).
2. Roseman JM. Diabetes in Black Americans. National Diabetes Data Group. Diabetes data compiled 1984. August 1985; NIH publication no. 85-1468.
3. Squires S. Diabetes and Blacks. *Washington Post Health*, September 13, 1988.
4. Squires S. Why us? Blacks and diabetes. *American Visions*, December 1988.
5. Lipson LG, Kato-Palmer S, Boggs WL, Moore D, Pope A. Black Americans. *Diabetes Forecast*, September 1988.
6. Howell R. Diabetes: Black women are its no. 1 victims. *Ebony*, March 1979.

Diabetes Corner

by Mildred "Barry" Friedman

(Note: Reprinted with permission from *Renalife*, published by the American Association of Kidney Patients (AAKP). For more information, please contact: AAKP, Suite LL1, 1 Davis Boulevard, Tampa, FL 33606.)

Since the last *Corner*, another little piece of me has fallen off. Diabetes is a lousy disease and for those of us who suffer its complications, parts of us seem to just deteriorate and quit. This time a hip gave up. I am currently typing from a tilted position because, as yet, I am not allowed to sit up straight on my new titanium hip. Even though it was in bad condition, that bit of bone was "me" and I mourn its loss. Maybe continuing disintegration explains my desire to understand the disease — and other people's wish to know, too.

Humans afflicted with chronic illness should grasp as much as they can of their condition's causes, complications, current treatments and myths. So education of diabetics is important. Self-help groups may be the easiest way to achieve learning. They are simple to set up, inexpensive, and significantly improve the knowledge of their members. To illustrate: glycosylated hemoglobin (a measure of the blood sugar levels over the previous six weeks) dropped in the members of a diabetic self-help group, showing better metabolic control.

Another simple self-educating method is reading (good for you who are taking in my column, which professes to pass along understandings). There is a new publication called *Voice of the Diabetic* which includes simple explanations of medical terms such as "renal threshold" or "glycosylated hemoglobin." Experiences, references and coping hints are included, too. Send the $8 subscription price to "The Diabetics Division of the National Federation of the Blind," Ed Bryant, 811 Cherry Street, Suite 306, Columbia, MO 65201. Make your check payable to "The National Federation of the Blind."

(**Editor's Note:** Membership in the Diabetics Division of NFB costs $2.00, which entitles you to a free magazine subscription. The professional and institutional rate is $8.00. Cassettes are provided to the blind at no extra cost.)

Of course, you could count on your doctor to educate you, but don't rely too heavily on such a strategy. Doctors devote only 48 minutes per patient per year to teaching and of these, just four minutes require the active participation of the patient. This is poor teaching technique. Good techniques include presenting the student with only small bits of new information each time and tailoring, on an individual basis, what is to be taught to what is missing from the student's information. Programs for diabetic education exist in 10% of accredited hospitals, but teaching people as outpatients is suggested. Computers could be used in waiting rooms for patient education because of their low cost, individualization and ability to be available in isolated community medical practices. People waste much time in waiting rooms and are usually more alert there than they would be as inpatients.

Part of making such a strategy work is the relationship between doctor and patient. The latter should expect a warm, friendly attitude and respect, from the former. Part of the job of the physician is to determine what knowledge must be taught. Learning can be evaluated simply if the physician asks the patient to repeat what they have been told. If no such query is made, patients can say something like "so then, you told me. . ."

Looking at education from the point of view of what patients want to know, *Diabetes in the News* surveyed their readers concerning the subjects they would like to read about. Note that this group of people had each paid a subscription price to receive the publication, showing their seriousness about wanting to learn. Suggested subjects included: the nature and causes of the disease, diet, kinds of diabetes, complications, and current means of treatment. A communication gap between the health care professionals and the people they were supposed to educate glares out from such a choice of topics.

A study of lower leg amputations among diabetic Pima Indians shows some holes in the thinking of health care professionals. Pimas have a very high rate of NIDDM (Type II or Non-Insulin-Dependent Diabetes Mellitus) and have a 100 times greater risk of amputation than do their non-diabetic fellow tribesmen. This study mentioned all sorts of risk factors such as being male, having high fasting and after-meal blood glucose, the degree of ability to feel a tuning fork vibrate on the big toes, and the presence of retinopathy (eye disease) or nephropathy (kidney disease). Nowhere are the kinds of shoes worn by these patients reported on or evaluated, however. The use of correct shoes is a major diabetic teaching and critical for prevention of the problems leading to foot and leg amputation, but the researchers didn't seem aware of this.

Speaking about correct shoes, I read a good report on the use of running shoes. "The current popularity of running shoes helps make them aesthetically acceptable." Besides which, they are easy to buy, comparatively low cost, and easy to fit. Reduction in pain was reported by 61% of the 33 men and 29 women, who were mostly white and non-smoking, participating diabetics. The mean size of their plantar (ball of the foot) calluses decreased (more if they wore the running shoes more) which is important since calluses like these on a diabetic foot, threatened by neuropathy and poor blood supply, can lead to plantar ulceration, gangrene, and leg amputation. About 5-15% of diabetics suffer lower limb amputations. Pardon the pun, but this seems a major step forward.

A step in place (neither going forward nor backward) was reported in the field of diabetic neuropathy (nerve disease). A hint is given that to avoid painful and dangerous neuropathic symptoms, inciting factors should be evaded. That seems obvious. Support by loved ones is also recommended. Oh. All kinds of diabetics can be afflicted. Signs can be intermittent and if one organ is involved, others probably are too. Whether or not neuropathy is present may depend on the duration of the diabetes. Bladders can be affected exhibiting infrequent voiding, difficulty in emptying, dribbling, and frequent urinary tract infections. Gastrointestinal tracts may show delayed stomach emptying, perhaps accompanied with hypoglycemia after meals; or nocturnal, intermittent, or fecal incontinence, and diarrhea. Silent heart attacks, fixed pulse rates (unresponsive to stress), or postural hypotension (a fall in blood pressure when going from vertical or sitting to standing) may characterize heart neuropathy. And last but not least neuropathy of the genitals may show as impotence in the men or inability to lubricate the vagina or achieve orgasm in women. Genital neuropathy giving rise to sexual malfunctions, hits 50% of diabetic men and 35% of diabetic women. The men are often charged with mental reasons for impotence, but emotional reasons manifest a fairly rapid onset whereas impotence due to physical causes comes on gradually. That's a little clue to help you differentiate your own problems.

Another kind of neurologic complication is called "painful neuropathy" and it is just what the name says. The pain usually occurs in the feet or hands and is described as tearing, darting, or sharply cutting; deep and tooth-ache like; burning; prickling, and contact induced. The group of 29 patients investigated, included 16 IDDMs (Type I or Insulin-Dependent Diabetes Mellitus) and 13 NIDDMs, 20 men and women who newly complained of painful neuropathy. Without treatment, 26 had remission within a year. People with remission had had a more acute onset, had a history of severe metabolic shifts within the prior three months (diagnosis of diabetes, ketoacidosis, major improvement in glycemic control, or anorexia). Improved patients had weighed less than those with persistent symptoms but gained more during the observation period. On the negative side, although painful neuropathy relented, touch and temperature perception deteriorated. On the positive side, symptoms of autonomic neuropathy improved and four of the seven men who suffered from impotence got rid of it. I wonder — was that mentally or physically caused impotence?

Now I am going to devote the rest of *Diabetes Corner* to remarks concerning the genetics or inheritance of diabetes. The inheritance of Type I diabetes is not clearly understood. My impression is that there are two kinds of Type I: either running in families or just occurring spontaneously. Research has shown that 80% of the IDDM population is of type HLA-DR3 or DR4 or both (DR3/DR4). You know about blood types. Well, tissue types are the same kind of thing, but refer to the antigens found on leukocytes or white blood cells and platelets, but not red cells. HLA stands for human leukocyte antigen (protein, or what the body's immune system rejects). DR refers to a specific type of HLA, and 3 and 4 are further specific definers. HLA-DR3 or 4 or 3/4 tissue types occur in only 30-50% of the general population. The group referred to is mostly Caucasians. A recent study shows that Chinese ID-DMs have a prevalence of HLA-DR3/4w9 — a different tissue type.

NIDDM, on the other hand, clearly is inherited. Type II diabetes fall into two groups: those whose blood sugar can be controlled with diet, exercise, and perhaps oral medications, and those who eventually require insulin for good sugar control. A very interesting article states that of the 312 (half men) late onset, nonketotic diabetics (Type IIs) those who required insulin had a greater incidence of HLA-DR4. HLA-DR4 NIDDMs also showed more thyroid antibodies and islet cell antibodies. Thyroid and islet cell antibodies are important if you accept the idea that IDDM is an autoimmune disease manifested by the body's rejection of its own insulin producing pancreatic islet cells. Rejection is shown by the presence of antibodies which are specific for identifiable groups of cells. Insulin-requiring NIDDMs then, are rejecting their thyroids and islet cells, the latter explaining their need for insulin. Hmmm! Give this finding some good thought. Perhaps a study should be made of the HLA types present in NIDDMs who require insulin and those who do not. The incidence of the comparatively rare HLA-DR5 is higher among all NIDDMs.

Type IIs stand out in other ways. They tend to be heavier. You overweight NIDDMs watch out. Don't try "no eating" by yourself, but NIDDMs suffering from no other disease, who had trouble losing weight — probably due to noncompliance — were hospitalized and starved. Really starved! They got less than 10 calories per day. But most lost 10-14 lbs. during their 7-10 day stay and 10% achieved excellent glucose control. On oral agents alone, 40% got down to blood sugars of under 200 mg/dl. Now let's find something to do for large IDDMs.

Body

by Cheryl Weinstock

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In the wake of the space shuttle disaster and the current U.S.-Soviet wrangle over "Star Wars" initiatives, it might seem as if all that expensive high-tech hardware dreamed up by NASA engineers has served no useful earthly purpose.

But now some of that sophisticated machinery devised to explore the cosmos is being adapted to advance medical technology here at home. In fact, new treatments for such life-threatening disorders as diabetes and cancer have been developed through the use of cleverly redesigned aerospace equipment.

"We didn't find any Martians on Mars, but we did come back from the planet with a model for an internal insulin pump that could control diabetes better than ever before," says Christopher D. Saudek, associate professor of medicine in endocrinology and diabetes at the Johns Hopkins University School of Medicine. The pump, which is placed just beneath the abdominal skin, may soon replace the daily insulin injections of some of the nearly 600,000 diabetics who now require to keep their blood-sugar levels stable.

The inspiration for the pump came from a device used in the 1976 *Viking* spacecraft, which delivered continuous and precise amounts of chemicals to test for life on Mars. The new medical application, called the Programmable Implantable Medication System (PIMS), will perform in the same way, delivering carefully measured amounts of insulin to the diabetic's abdominal cavity, where it can be absorbed into the bloodstream.

This is just one example of the recycled technology emanating from NASA's Technology Utilization Program, which was established in 1962. The objective of the program, explains Donald Friedman, chief of the Office of Commercial Programs at the Goddard Space Flight Center in Greenbelt, Maryland, is to bring together NASA engineers and idea people from private industry to utilize space technology in the private sector. Friedman and about a dozen other "industrial brokers" around the United States act as go-betweens for NASA and the outside companies. "We put together teams," he says, "who can match marketplace ideas with a particular NASA technology and derive something from it that will benefit people."

It's not an easy task: less than 0.04 percent of NASA's yearly budget is earmarked for the Technology Utilization Program, so its success depends on private industry's willingness to share in the cost of transferring technology from the NASA labs to their own. Even so, a number of companies are finding that the cost is worth the potential benefits. Douglas Ritchie, general manager and senior vice president of MiniMed Technologies, which is marketing PIMS, says that "the advances that have evolved as a result of NASA's work have been very important to the growth of our company."

A number of products have already traveled from the stars to the marketplace on Earth. There's NASA-dent, a foamless, ingestible toothpaste—like the one the astronauts brush with—designed for people who are unable to expectorate. A biotelemetry system, originally developed to observe the vital functions of space-bound astronauts from the ground, has been adapted to enable hospitals to monitor the condition of a number of patients from a single location. An implantable pump, much like PIMS, has been developed that delivers medications—such as opiates for pain, and even chemotherapy drugs—directly into a patient's bloodstream. Researchers have also designed a prototype for a lightweight wheelchair constructed from materials used in building spacecraft.

Perhaps one of the most interesting NASA-to-industry inventions is the LIXIscope, a portable X-ray machine adapted from the technology of the space telescope. Utilizing the image-intensifying system of the space telescope, the tiny LIXIscope can be held up to a specific area of the body, giving its user a Superman's-eye view of nearly all the body's bones and organs. According to NASA's Friedman, the device could examine injuries on the sporting field and might even replace the old-fashioned dental X-ray because of the comparatively lower radiation dosages it yields.

The space telescope is also expected to be recycled into yet another device—one that can measure the precise shape of the eye. Such an instrument could be employed to increase the success of radial keratotomy, an operation to correct nearsightedness. But Dr. J. James Rowsey, director of corneal services at the McGee Eye Institute at the University of Oklahoma, cautions, "We're far from using this operation as a replacement for glasses or contact lenses because we don't have an instrument to accurately map the shape of the cornea. In the operation, several cuts are made in the outer layer of the cornea to reduce myopia. An instrument that could predict exactly where the cuts should be made, explains Rowsey, would immeasurably improve the operation's success rate. Researchers hope that such an instrument will be tested at the eye institute by next year.

Other products still on the drawing board seem destined to provide us with important medical breakthroughs. For instance, microspheres—small beads present in rocket fuel to ensure that it will burn evenly—are being redesigned to help kill cancer cells.

Research shows that the microspheres, when manufactured with magnetic particles and coated with the appropriate antibodies, will bond to cancer cells. Then these microspheres could be put through a magnetic field, separating the cancer cells from the healthy ones. This new treatment has been tried in England to cleanse cancer cells from the bone marrow of 40 patients with neuroblastoma, a rare and often fatal form of cancer. The results of the study have not as yet been determined.

NASA—in conjunction with the National Institute on Aging, the Veterans Administration (VA), the Administration on Aging, and the National Institute for Disability and Rehabilitation Research—is also working on a portable "wandering" prevention system to keep more than 1 million victims of Alzheimer's disease from straying into dangerous situations. Using the tracking and communication devices found on the space shuttle (as well as other NASA technology), researchers hope to develop a sensor to attach to patients. Says Mercia Decker, health science specialist at the VA central office in Washington, D.C.: "It would be wonderful if rather than using chemical or physical restraints on Alzheimer's patients, which limits their exercise, we had a portable system that would alert the caretaker when the patients stray."

The possibilities for biomedical devices recycled from aerospace technology seem endless. Indeed, says Ray Whitten, at the Office of Technology Utilization in Washington, D.C., it seems safe to conclude that the technology that has made it from "Mission Control to the marketplace is already benefiting thousands of people at home, and the number that will benefit in the future will be in the millions."

Confessions of a Less-Than-Model Diabetic

by Charles C. Nash

(Note: The following is part of an article that appeared on October 30, 1988, in the *Nevada Daily Mail,* Nevada, MO.)

It's difficult to disentangle the physiological from the psychological effects of the affliction known as diabetes.

Only recently, for example, have I begun to realize that for 30 years—as long as I've been diabetic—my mother has been silently harboring a profound sense of guilt.

Theories of what causes diabetes change, but she grew up in the shadow of the then prevailing notion that diabetes is genetically transmitted to every other generation. Thus, according to this theory, my mother passed it on from my grandmother (who did indeed die of diabetes in 1921, ironically enough, the year insulin was discovered) to me. That my mother herself escaped the disease probably enhances her sense of guilt.

After 30 years this psychological burden comes to light. "I'm so sorry about that," she says simply, over a faulty long-distance phone connection.

And I try to console her, explaining that experts now contend that diabetes is caused by psychological stress. But it does no good. She's got it set in her mind that she's responsible.

Diabetes has different psychological effects on its different victims, of course. I was 18 when I was first diagnosed. The symptoms had been clear enough: a terrible thirst, a sudden loss of weight, an unbroken listlessness.

It was good to have, at last, a name for this mysterious physical crisis. But once I was introduced to insulin and felt again on top of the world, I began to resent it deeply.

Diabetes sets restrictions on your life. Dr. Reed, my physician, told me I could lead "a perfectly normal life." He may even have reminded me that diabetes never slowed down Tony Trabert, the tennis star. And in many respects he was absolutely correct. But the disease does set limits.

Diabetes, to me, was bothersome and threatened to set me apart. A conscientious diabetic will, for example, go to a party and soon find himself still in dry dock, as it were, while all the other guests drift happily into an alcoholic haze.

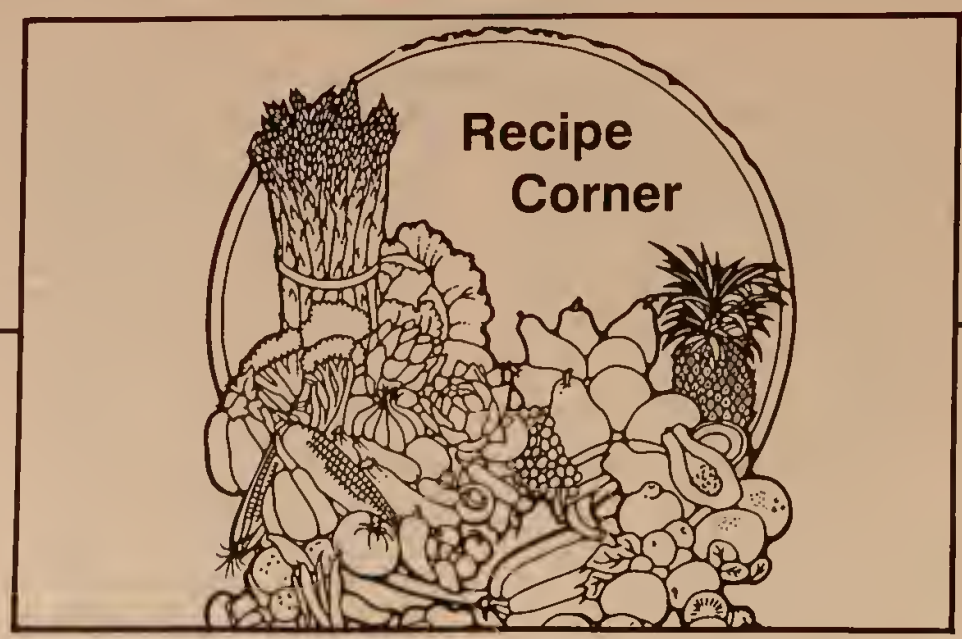
It's no fun to be the only sober soul in the room.

Moreover, my diabetes threatened to force me into asking special favors. This has always gone against my thinking. If a dinner host knows you're diabetic, he'll have to lay in a special supply of dietetic foods just for you.

Last spring, my American lit students wandered all over Nevada looking for a bottle of non-alcoholic Asti Spumante. This is flattering, of course, but rather embarrassing.

Some young diabetics first react to their suddenly restricted diet by gorging themselves, suicidally, with sweets. It's an act that stems from

(Continued on page 19)



Send your great ideas to the editor. He is the official taste tester and needs recipes to test his taster.

Diet Egg Nog
Submitted by Anonymous

3 eggs, separated
3 Tbs. artificial sweetener
1 pinch salt (if desired)
3 cups skim or low-fat milk
1-2 Tbs. powdered milk or coffee creamer
3 Tbs. bourbon extract (to taste)
3 tsp. vanilla

Beat egg yolks and sweetener and salt; mix well. Mix milk and powdered milk together until dissolved. Add—bourbon extract and vanilla, blend in blender until extra smooth. Whip egg whites until frothy and fold or stir into mixture. Chill and serve with a dash of nutmeg or cinnamon on top.

Yield: 3 9-oz. servings; Calories: 170; Diabetic Exchanges: 1 skim milk, 1 med. fat meat.

The following 4 recipes were part of an article called, "Holiday Foods Highlight Diabetic Menu," published on the 9th of November, 1988, in the *News-Press/Gazette* of St. Joseph, MO. Stephanie Smith, RD, said in part, "For diabetics who are going to make a holiday meal, it's a good idea to use recipes like these." She also suggested ways to make recipes low in sugar and fat. "Lots of times, you can use unsweetened juices instead of sugar. And you can enhance the flavor of foods with things other than fat. Fat carries the flavor, so you want some kind of substitute. For example, for the gravy, the drippings are defatted. The vegetable dip is a lower fat version." Stephanie Smith, RD, also said, "Diabetics may think they have to eat differently than the rest of the family, but that's not necessarily so."

Peking Roast

3 lbs. chuck or English cut roast
Garlic and onion slivers
1 cup vinegar
2 cups strong black coffee
2 cups water
1 tsp. salt
1/2 tsp. pepper

Trim all the bone and fat you can from the meat. Poke vertical slits in meat with a paring knife. Put slivers of onion and garlic in the slits. Place meat in a baking dish or cake pan. Pour vinegar over the roast, making sure it runs into slits. Marinate 24 hours in refrigerator, turning several times. Brown meat in a large, heavy, greased saucepan until very browned. Pour off any grease. Add coffee, vinegar marinade, water, salt and pepper and bring to a boil. Reduce heat. Cover and simmer 4 to 6 hours. Remove meat from liquid and trim off remaining bone and fat as you place meat on a serving plate.

Yield: 6 to 10, with 10 servings of 3 ounces each. Exchange is 3 lean meat; calories, 169; protein, 26 grams; carbohydrates, 2 grams; sodium, 241 milligrams; and fat, 7 grams.

Bread Dressing

7 slices bread, cut in ½-inch cubes
3 Tbs. onion, chopped
2 Tbs. margarine
¼ tsp. salt
¼ tsp. pepper
½ tsp. poultry seasoning
½ tsp. ground sage
1 Tbs chicken bouillon (1 cube)
2 to 4 Tbs. water

Combine all ingredients. Toss with enough liquid to moisten.

Yield: 6 servings of ½ cup. Exchanges are 1 bread, 1 fat. For sodium-restricted diets, use salt-free bouillon and omit salt.

Skinny Gravy

1 cup defatted meat drippings*
1 Tbs. concentrated chicken OR beef bouillon
1 Tbs. cornstarch
3 drops yellow food coloring OR Kitchen Bouquet
2 Tbs. minced onions, browned OR 1 tablespoon dehydrated onion flakes (optional)

Heat the defatted drippings in a saucepan. As soon as they become liquid, put a little of the mixture in a cup and add the cornstarch. Mix well. Pour this mixture back into the pan. Add the optional ingredients, if desired. Simmer until the gravy thickens.

Yield: 1 cup; food value is free.

*To defat meat drippings, place drippings in the refrigerator until cold. Remove the top layer of fat and discard.

Original Diet Fruit Cake

12 slices raisin bread
½ cup plus 2 tsps. self-rising flour
1 tsp. baking powder
1 tsp. baking soda
3 egg whites and pinch of salt, beaten stiff
1 tsp. orange peel
1 tsp. vanilla
1 tsp. cinnamon
3 slices unsweetened pineapple
6 Tbs. pineapple juice
4 apples, peeled, cored, and cut up
2 cans water chestnuts, drained and chopped
4 Tbs. raisins
½ cup water
4 Tbs. vegetable oil
½ cup brown sugar replacement

Crumble bread into crumbs. Pour the water, juice, and oil over the crumbs in a large bowl. Let soak, then stir in beaten egg whites. Place flour in another bowl. Stir in baking soda and baking powder. Prepare fruit and stir into flour mixture to coat. Add fruit to bread mixture and stir well. Pour into greased and floured baking pans or 2 loaf pans. Bake at 350 degrees for 30 to 40 minutes.

Yield: 24 servings. Exchanges are 1 fruit, ½ bread; calories, 97; carbohydrates, 20 grams; sodium, 151 milligrams; and fat, 1 gram.

Sugar Affects Pregnancy

BOSTON — Pregnant women with diabetes can reduce their high risk of miscarriages by keeping their blood sugar levels under control, a study shows.

The study tried to settle a long-running debate over whether diabetes increases a woman's risk of miscarriage.

It found that the higher the blood sugar level in diabetic women, the higher the risk of miscarriage. However, women who keep their sugar levels in normal range have no higher risk of this than women without diabetes.

"Diabetic women can be reassured that if they achieve reasonably good metabolic control during pregnancy," the researchers wrote, "their risk of spontaneous abortion is no higher than that among non-diabetic women."

The study was based on a comparison of 386 pregnant women who took insulin for diabetes and 432 without diabetes. Overall, 16 percent of the women in both groups had pregnancy losses. However, blood sugar levels were higher in the diabetic women who had miscarriages.

(*Note:* This article appeared Dec. 22, 1988 in *The News-Press,* FL.)

Good News for Diabetics

Foot ulcers, which can lead to serious complications for diabetics — including amputations — if not caught and treated in time, are often the result of poor blood circulation and low oxygen delivery. The good news from the University of Medicine and Dentistry (New Jersey) is that a new drug is in development that shows promise in improving blood flow and oxygen delivery to tissues in the diabetic foot. The first clinical studies of this drug in ointment form are being made to see if it speeds the healing of diabetic foot ulcers.

Meanwhile, diabetics should avoid injuries to their feet and should see a doctor at the first sign of a problem.

(*Note:* This article appeared June 29, 1989, in the *Sweet Springs Herald,* Sweet Springs, Missouri.)

Confessions of a Less-Than-Model Diabetic

(Continued from page 17)

rage and frustration — pure defiance, like the hemophiliac who seeks to walk barefoot on broken glass. I've had students who have done this.

My own reaction was different. Only recently have I begun to understand that, as a teenager, I had difficulty with authority. And then suddenly, at the height of my *sturm und drang* stage, here was this irreducible authority figure, not in the form of parent or teacher, but inside myself, an inescapable physiological condition imposing a bundle of "Thou Shalt Not's."

It was, I can assure you, intolerable. My response was not to defy it, but simply to ignore it. I told no one. I don't believe anyone outside my own family knew.

Temperamentally, I have difficulty accepting the fact that I have limitations. I thought if I could ignore it, my diabetes would come to feel unwanted, would finally understand it had roosted on the wrong host — and perhaps go away.

It didn't.

So I evaded reality — or thought I had — until in 1980 I realized my 22-year impersonation of a non-diabetic was failing. I started having trouble with my eyes. I had tried so hard to ignore my disease that I hadn't even learned it could wreck my eyes.

Returning from my Kansas City ophthalmologist, I gave some unprecedented thought to what it would be like to be blind, when a very large part of my life is dedicated to reading and writing.

It took three laser operations to bring me to my senses.

To this day I'm a less-than-model diabetic. The irregularity with which I see my local physician, a highly competent man, is, I admit, appalling. My reluctance is another psychological effect I have yet to fathom.

But I now accept my diabetes as an inescapable fact. I watch my diet and get plenty of exercise by renovating houses. And I no longer make the mistake — as I did two years ago last spring — of getting so involved in so many stressful activities and projects that my eyes begin to pay a price.

Granted, diabetes represents a physiological breakdown, but it is not like a broken leg. A diabetic, especially a young one, needs help in learning how to treat and adjust psychologically to his condition.

If you or a friend would like to remember the National Federation of the Blind in your will, you can do so by employing the following language:

"I give, devise, and bequeath unto National Federation of the Blind, 1800 Johnson Street, Baltimore, Maryland 21230, a District of Columbia nonprofit corporation, the sum of $_____ (or "_____ percent of my net estate" or "the following stocks and bonds: _____") to be used for its worthy purposes on behalf of blind persons."

Tidbits and Humor

Trying to Do the Job Alone
by A Bricklayer

Dear Sir,

I am writing in response to your request for additional information. In block number 3 of the accident reporting form, I put "trying to do the job alone" as the cause of my accident. You said in your letter that I should explain more fully, and I trust that the following details will be sufficient.

I am a bricklayer by trade. On the date of the accident, I was working alone on the roof of a new six-story building. When I completed my work, I discovered that I had about 500 lbs. of brick left over. Rather than carry the bricks down by hand, I decided to lower them in a barrel by using a pulley that fortunately was attached to the side of the building at the sixth floor.

Securing the rope at ground level, I went up to the roof, swung the barrel out, and loaded the bricks into it. Then I went back to the ground and untied the rope, holding it tightly to ensure a slow descent of the 500 lbs. of bricks. You will note in block number 11 of the accident report form that my weight is 135 lbs.

Due to my surprise at being jerked off the ground so suddenly, I lost my presence of mind and forgot to let go of the rope. Needless to say, I proceeded at a rather rapid rate up the side of the building.

In the vicinity of the third floor, I met the barrel coming down. This explains my fractured skull and collarbone.

Slowed only slightly, I continued my rapid ascent, not stopping until the fingers of my right hand were two knuckles deep into the pulley.

Fortunately, by this time I had regained my presence of mind and was able to hold tightly to the rope in spite of my pain.

At approximately the same time however, the barrel of bricks hit the ground and the bottom fell out of the barrel. Devoid of the weight of the bricks, the barrel then weighed approximately 50 lbs.

I refer you again to the information in block number 11. As you might imagine, I began a rapid descent down the side of the building.

In the vicinity of the third floor, I met the barrel coming up. This accounts for the two fractured ankles and the lacerations of my legs and lower body.

The encounter of the barrel slowed me enough to lessen my injuries when I fell onto the pile of bricks and fortunately, only three vertebrae were cracked.

I am sorry to report, however, that as I lay there on the bricks in pain unable to stand and watching the empty barrel six stories above me, that I again lost my presence of mind, and I let go of the rope. The empty barrel weighed more than the rope, so it came down upon me and broke both of my legs.

I hope I have furnished the information you required as to how the accident occurred.

Congratulations

In an earlier issue of ***Voice of the Diabetic,*** we announced that our Diabetics Division would have a raffle to help defray cost.

We now have a winner, and the lucky person has been sent $300.00. The winner was Barbara Taaffe from Albany, New York.

Congratulations Barbara!

Spread the Word

If you know someone who may be interested in reviewing ***Voice of the Diabetic,*** ask and we will send him or her a complimentary print or cassette copy (tapes recorded at 15/16 IPS). Contact: The ***Voice*** at 811 Cherry Street, Suite 306, Columbia, MO 65201; telephone: (314) 875-8911.

*The following two articles appeared in recent issues of the **Braille Monitor,** a national magazine published by the National Federation of the Blind.*

Large-Print Books

In the past three years, publishers have doubled the number of large-print books published each year. Eight major publishers are providing almost 1,200 titles per year, while smaller publishers account for another 200 titles per year. The complete *Directory of Large-Print Books & Serials 1989* gives testimony to this fact, as it reports, in comprehensive form, the growing numbers of large-print books being produced each year. This book provides a complete resource for what's available in the field of large-print materials. For information, or to order, contact: Customer Service, R.R. Bowker Company, P.O. Box 762, New York, NY 10011; telephone toll-free: 1-800-537-8416. The price of the directory (226 pages) is $89.95.

On the Move

The National Federation of the Blind has arranged with North American Van Lines to offer substantial discounts to members of the Federation who are moving. A discount of 35 percent will be offered to Federation members for moving charges, and a discount of 25 percent will be offered for storage charges. There are also credit plans available.

In order to get the discount or obtain further information, you should call Mr. Skip Carver at 1-800-873-2673. You must identify yourself as a member of the NFB, and you should then ask for the discounts in the National Federation of the Blind moving program.

North American Van Lines will make a contribution to the National Federation of the Blind in the amount of two percent of the money paid to North American Van Lines in the NFB moving program. Those on the move should get these discounts. Not only does it help with the cost of relocation, but it also brings contributions to our national treasury.

The Pulse

We have been asked to announce a new newsletter titled, *Pulse of the Pacific.* The newsletter says it "wants to keep its clients and contacts informed about what is happening in the Pacific." *The Pulse* has specific information for people wanting to visit Hawaii who must undergo dialysis treatments. To order *Pulse of the Pacific* at no charge, write to: Intercontinental Medical Services, 1520 Liliha Street, Suite 607, Honolulu, HI 96817.

Microwave Times

We recently received the following: New in braille and on cassette, *The Microwave Times*—a bi-monthly (six issues a year) cooking magazine, it features an average of 45 recipes per issue, tips and techniques of microwave cooking; also, *What's New in Microwave Accessories* is now available in braille, approximately 88 pages per issue ($34.00 yearly) and on tone-indexed cassette, with a six-slot storage album included ($31.00 yearly). All subscriptions must be prepaid, mail to: CL Productions, 2905 Berkshire Drive, Mesquite, TX 75150; telephone: (214) 681-2771. Reduced prices for quantity orders upon request.

Annie Weems serves as Chairwoman of Aids and Appliances for the Diabetics Division of the NFB.

(Inclusion of materials in this publication is for information only and does not imply endorsement by the Diabetics Division of NFB.)

What You Always Wanted to Know But Didn't Know Where To Ask

(Resource List)

Equipment

Talking Blood Pressure/Pulse Monitor: This instrument can verbally or visually give you both numbers of your blood pressure and your pulse rate. The instrument has a control that can be set to tell you, step-by-step, how to take your blood pressure or to give you only the end results. It can also be set for no verbal response at all.

This instrument is also equipped with blood pressure cuff and LDC board on which your blood pressure and pulse rate are visually displayed. It will operate on batteries (included) or on an A/C adaptor (not included). The cost for NFB members is $128.00 and for non-members $153.00.

To order, contact: National Federation of the Blind, Materials Center, 1800 Johnson Street, Baltimore, MD 21230; telephone (301) 659-9314.

Autojector: Automatic insulin injection system that "automatically injects the needle at a prescribed depth." Suggested retail price: $39.95. Contact: Ulster Scientific, Inc., P.O. Box 902, Highland, NY 12528; telephone toll-free: 1-800-431-8233; in NY call: 1-800-522-2257.

Diascan-SVM Blood Glucose Meter with Audio Output: Blood can be smeared onto the test strip pad, a hanging drop is not required. The manufacturer offers a $125.00 rebate. Suggested retail price is $635.00. With rebate (including cassette instructions), it is $510.00. A sample cassette is offered free of charge upon request. Contact: Home Diagnostics, Inc., 6 Industrial Way West, Eatontown, NJ 07724; telephone toll-free: 1-800-342-7226; in NJ call: (201) 542-7788.

Accu-Check II Freedom System Blood Glucose Meter with Audio Output: This system has a finger guide that assists the user in getting a drop of blood onto the test strip pad. Once a drop of blood is on the pad, the machine says, "Start the timer." The dimensions are approximately 16 1/16" by 16 1/8" by 8", weight 11 pounds. Suggested retail price (including cassette instructions): $675-700. Contact: Boehringer Mannheim Diagnostics, Inc., 9115 Hague Road, Indianapolis, IN 46250; telephone toll-free: 1-800-428-5074.

Braille/Cassettes

Aids and Appliances: This comprehensive resource list comes in braille, cassette and print. To help defray costs, we ask $2.00 for braille (33 pages), $1.00 for cassette, and $1.00 for print.

Make tax-deductible checks payable to: National Federation of the Blind. Order from: Annie Weems, Chairwoman, Aids and Appliances Committee, 20820 Kenosha, Oak Park, MI 48237; telephone: (313) 968-8825.

Exchange List for Meal Planning: This list is now available in braille (83 braille-written pages bound in a nice, durable, plastic cover) and on cassette.

This revision, the first in 10 years, is the result of a joint effort of the American Diabetes Association and the American Dietetic Association and reflects today's food values and eating patterns. It continues to restrict fat but emphasizes high carbohydrate and fiber foods. Nutritive values have been increased in such foods as fruits, milk products and carbohydrate/starch exchanges. New additions include a list of free foods, exchange values of combination foods, and a list of foods for occasional use. There is also a glossary of nutritional terms and an index of foods.

Make tax-deductible checks payable to: National Federation of the Blind. Cost: braille $15.00 and cassette $2.00. Order from: Karen Mayry, President, Diabetics Division of NFB, 919 Main St., Suite 15, Rapid City, SD 57701; telephone: (605) 348-8418.

Print

The Diabetes Dictionary: This dictionary defines some 300 terms and includes 31 new and 13 revised definitions, as well as many illustrations. Single copies are free.

Order from: National Diabetes Information Clearinghouse, Box NDIC, Bethesda, MD 20892.

The following two books were listed in the Spring 1989 issue of Diabetes Dateline, *a bulletin of the National Diabetes Information Clearinghouse.*

The Diabetic Cookie Cookbook: "presents more than 50 recipes for cookies, muffins, brownies and loaf cakes that are made without sugar."

Our Favorite Diabetic Recipes: "offers more than 50 recipes for main dishes, sauces, casseroles, desserts and snacks, vegetable dishes, jams and jellies, drinks and dressings. Each recipe includes information about the calorie and exchange values."

Each cookbook costs $3.25, or both can be ordered for $6.50, including shipping. The address is the Quad Cities Diabetes Association, Inc., 1001 16th Street, Room 204, Moline, IL 61265.

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Although the $2.00 annual membership fee of the Diabetics Division of the National Federation of the Blind (NFB) entitles you to a year's subscription to **Voice of the Diabetic**, production cost per annual subscription of the **Voice** is about $8.00. For this reason, we must charge all non-members, health professionals and institutions $8.00 for an annual subscription. Of course, all donations are accepted and very much appreciated.

If you wish to become a member of the Diabetics Division of NFB and receive a free subscription, subscribe as a non-member, or make a donation to the Diabetics Division of NFB, please check the appropriate box or boxes below:

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